

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L01R-01-BAC**

Roanoke River, South Fork

Location: South Fork Roanoke River mainstem from the mouth of Elliott Creek extending downstream to the confluence of the North and South Forks of the Roanoke River.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

The 2004 initially 303(d) Listed 12.61 mile fecal coliform (FC) bacteria impairment remains. Two stations on the S.F. Roanoke River, 4ARSF011.73 located on the Rt. 637 Bridge and 4ARSF002.20 above the old Green Hill industrial site near Rt. 11/460, find the recreational use is not supported.

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the South Fork of the Roanoke River bacteria impairment.

4ARSF011.73 (Rt. 637 Bridge) The 2004 Integrated Report (IR) reveals three excursions from 12 FC observations in excess of the 400 cfu/100 ml instantaneous criterion of 400 cfu/100 ml. 2004 exceedences range from 600 to 3000 cfu/100 ml. There are no additional data beyond the 2004 IR. 2008 Escherichia coli (E.coli) observations are insufficient to delist where no excursions of the E.coli criterion are found in eight samples. Therefore the 2004 FC impaired status remains.

4ARSF002.20- There are no additional data beyond the 2004 IR. Three of 18 FC observations exceed the instantaneous criterion in 2004. 2004 IR exceedences range from 600 to 5300 cfu/100 ml. The waters remain impaired for FC. There are no E.coli data to assess.

Roanoke River, South Fork

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

12.61

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L01R-01-TEMP** **Roanoke River, South Fork**

Location: South Fork Roanoke River mainstem from the mouth of Elliott Creek extending downstream to the confluence of the South and North Forks of the Roanoke River.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

4ARSF011.73- (Rt. 637 Bridge) No additional data beyond the 2004 Integrated Report (IR). The 2004 IR reported two of 12 temperature measurements in excess of the criterion. Each exceedence is 22°C occurring on 7/22/99 and 6/06/01. The 2004 Category 5C assessment remains. Low stream flows and drought conditions were observed during both 1999 and 2001.

4ARSF002.20- (above the old Green Hill industrial site near Rt. 11/460) No additional data beyond the 2004 IR. The 2004 IR records two of 18 Temp measurements exceed the WQS criterion. Each 2004 exceedence is 22°C occurring on 7/22/99 and 6/06/01. The 6.24 mile waters remain impaired (Category 5C) for temperature.

Roanoke River, South Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			6.24

Sources:

Natural Conditions - Water Source Unknown
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L01R-02-TEMP** **Bottom Creek**

Location: Bottom Creek mainstem from its mouth on the South Fork Roanoke River on upstream to the Rt. 669 crossing.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

4ABTM000.04 (Rt. 637 Bridge)- Finds three of 10 temperature measurements exceed the WQS Class VI criterion of 20°C on 06/04/02 at 24.4 °C; 7/7/2005 at 21 and 7/25/2006 at 20.5 °C.

Bottom Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			4.41

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L02R-01-BAC**

Roanoke River, North Fork

Location: North Fork Roanoke River from the mouth of Wilson Cr. on the North Fork Roanoke River downstream to an unnamed tributary in the community of Ironto.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station 4ARNF013.66 located at Rt. 603 Bridge near Ellett (incorrectly coded 4ARNF015.09 in previous cycles), originally listed for fecal coliform (FC) bacteria in 2002 is now listed for Escherichia coli (E.coli) as per WQS [9 VAC 25-260-170. Bacteria; other waters]. The bacteria impairment extends 6.57 miles.

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the North Fork of the Roanoke River bacteria impairment.

4ARNF013.66 (Rt. 603 Bridge) The 2008 Integrated Report (IR) finds escherichia coli (E.coli) bacteria exceeds the 235 cfu/100 ml instantaneous criterion in 14 of 33 samples. E.coli exceedences range from 280 to 1500 cfu/100 ml. The E.coli geomean (126 cfu/100 ml) is exceeded in three of six calculations. The 2006 IR reports E.coli bacteria exceeds the 235 cfu/100 ml instantaneous criterion in 12 of 21 samples. E.coli exceedences range from 280 to 1500 cfu/100 ml. The E.coli WQS geomean of 126 cfu/100 ml exceeds the criterion in three of four calculations.

Roanoke River, North Fork

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

6.57

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L02R-02-BAC**

Wilson Creek and Wilson Creek, UT

Location: Wilson Creek to include a northern unnamed tributary from its headwaters downstream to the Wilson Creek confluence on the North Fork Roanoke River.

Note: The northern arm extends upstream from mainstem Wilson Creek to near the Rt. 114 & Rt. 460 intersection behind a commercially developed area near New River Valley Mall.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Wilson Creek Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 23395]; SWCB approved 6/27/2007. Wilson Creek is originally 303(d) listed for bacteria (fecal coliform) with the 2002 assessment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 6.92 mile bacteria impairment remains.

4AWLN000.40 - The 2008 Integrated Report (IR) reveals thirteen of 27 Escherichia coli (E. coli) samples exceed the instantaneous criterion of 235 cfu/100 ml. The minimum exceedence is 300 cfu/100 ml with a maximum of 2200. In 2006 twelve of 23 E. coli samples exceed the instantaneous criterion of 235 cfu/100 ml with the same range of exceedence.

Wilson Creek and Wilson Creek, UT

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

6.92

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L03R-01-TEMP** **Roanoke River**

Location: Roanoke River mainstem from the confluence of the North and South Forks of the Roanoke River extending downstream to the Rt. 419 Bridge crossing.

City / County: Montgomery Co. Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

The Virginia Department of Game and Inland Fisheries (DGIF) has determined these waters are incorrectly classified as Class V - Stockable Trout waters by letter dated 3/13/2006 and are Class IV - Mountainous Zone waters. The waters remain Category 4C, naturally impaired, until WQS Triennial Review addresses the DGIF comments on stream classification.

4AROA227.42- (located at the Rt. 773 Bridge in Lafayette) Six of 50 temperature measurements exceed the 21°C criterion. Temperature excursions occur in the summer months ranging from 21.4 to 26.6°C. Temperature data within the 2006 data window find eight of 51 observations exceed the criterion with a range of 22 to 27°C. The 2004 IR reports temperature exceeding the stockable trout water criterion in nine of 59 measurements ranging as in 2006. The waters remain Category 4C impaired.

4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.) Two of 21 temperature measurements exceed the 21°C criterion at 21.3 and 25.4°C. Class V temperature could be partially delisted based on these 2008 data. However the delisting awaits the stream classification changes in WQS before delisting will occur. Categorized 4C - Natural. Temperature data within the 2006 data window finds exceedences in six of 32 measurements ranging from 21 to 25°C. The 2004 results find temperature exceeds the stockable trout water criterion in eight of 42 measurements, most in summer. Exceedences range from 22 to 25°C.

Roanoke River

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Temperature, water - Total Impaired Size by Water Type:

15.31

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-01-BAC**

Roanoke River and Smith Mountain Lake

Location: The upstream limit is at the Roanoke County Spring Hollow Reservoir water intake downstream to the mouth of Falling Creek in Smith Mountain Lake.

City / County: Bedford Co.

Franklin Co.

Roanoke City

Roanoke Co.

Salem City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake.

Station 4AROA227.42 (Rt. 773 Bridge in Lafayette) is included in the 1999 Federal Consent Decree as an Attachment B station for fecal coliform bacteria. The station was not listed in 2002 as exceedences of the former WQS 1000 cfu/100 ml instantaneous criterion were at 5 percent. The waters were not de-listed in recognition of the forth coming change of the fecal coliform WQS instantaneous criterion from 1000 to 400 cfu/100 ml. The 2004 Integrated Report (IR) records an 11.8 percent exceedence rate and initial 303(d) Listing for fecal coliform bacteria. In 2008 Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 2008 assessment reports one of 21 Escherichia coli (E.coli) samples in excess of the 235 cfu/100 ml instantaneous criterion and is partially delisted with the 2008 IR for 2.22 miles.

4AROA224.54- (Rt. 639 Bridge at Riverside) E.coli exceeds the criterion in two of 11 observations. Maximum excursions are 400 cfu/100 ml and 780. The 2006 IR finds E.coli exceeds the instantaneous criterion in two of eight observations. The maximum exceedence is 780 cfu/100 ml.

4AROA220.94- (Rt. 639 Bridge just south of Wabun) E.coli exceed the instantaneous criterion in two of 12 observations ranging from 250 to 850 cfu/100 ml. In 2006 E.coli exceeds the criterion in two of eight observations. The maximum exceedence is 780 cfu/100 ml.

4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.) Four of 20 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion. One of four E.coli geomean calculations exceed the WQS geomean of 126 cfu/100 ml - 'Observed Effect'. E.coli excursions range from 290 to 750 cfu/100 ml.

4AROA205.73- (Franklin Road Bridge, Roanoke, VA) Eight of 32 Escherichia coli (E.coli) samples exceed the instantaneous criterion and 3 of 5 geometric mean calculations exceed the 126 cfu/100 ml criterion. The 2008 range of exceedence is from 270 to 570 cfu/100 ml. 2006 results find seven of 20 E.coli samples exceed the instantaneous criterion with the same range of exceedence. E.coli geomeans exceed the 126 cfu/100 ml criterion in 3 of 6 calculations.

4AROA202.20- (14th Street Bridge - above STP) Eight of 33 E.coli samples exceed the instantaneous criterion and two of six geometric mean calculations exceed the 126 cfu/100 ml criterion. The 2008 range of exceedence is from 280 to greater than 2000 cfu/100 ml. 2006 E.coli exceeds the instantaneous criterion in six of 21 observations. Exceedence range: 330 to greater than 2000 cfu/100 ml. Two of six geometric mean calculations exceed as in 2008.

4AROA199.20- (Blue Ridge Parkway Bridge - Niagara) Nine of 21 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml in 2008. Exceedences range from 280 cfu/100 ml to greater than 2000. 2006 results found six of 12 samples exceeding ranging from 280 to 610 cfu/100 ml.

4AROA196.05- (McVeigh Ford) E.coli samples for 2008 find 10 of 32 in excess of the instantaneous criterion ranging from 250 to greater than 2000 cfu/100 ml. 2006 samples find five of 18 E.coli samples exceed the instantaneous criterion ranging from 400 to greater than 2000 cfu/100 ml.

4AROA192.94- (Hardy Ford) 2008 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in eight of 44 observations with excursions ranging from 280 to greater than 2000 cfu/100 ml. The 2006 IR finds seven of 30 samples in excess of the instantaneous criterion and the same range of exceedence.

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Roanoke River and Smith Mountain Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		350.06	29.51

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Sanitary Sewer Overflows (Collection System Failures)	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-01-BEN** **Roanoke River**

Location: Roanoke River mainstem from the Mason Creek mouth downstream to the mouth of Back Creek.

Note: Impounded waters of Niagara Dam are not included with this impairment.

City / County: Bedford Co. Roanoke City Roanoke Co. Salem City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Benthic-Macroinvertebrate Bioassessments / 5A

The Roanoke River General Standard - Benthic (Sediment) TMDL Study is complete and US EPA approved 5/10/2006 [Fed. ID - NA]. SWCB approved 9/07/2006. Formerly coded VAW-L04R-01. The benthic impairment is extended downstream with the 2008 Integrated Report (IR) for 3.14 miles from Niagara Dam downstream to the mouth of Back Creek. This portion of the impairment is Category 5A as the TMDL Study did not address these waters. The extension results in a total General Standard (Benthic) impairment of 14.45 miles. The impairment does not include the impounded waters of Niagara Dam.

4AROA212.17- (Rt. 11 Bridge - below Eaton, Inc.) Bio 'IM' There are five Virginia Stream Condition Index (VSCI) surveys (2001-2006) conducted at this site with average seasonal scores of spring 59.6 and fall 57.1 the average score is 58.1. Fewer taxa and fewer sensitive taxa compared to the reference site. The modified family biotic index consistently shows a slight-to-moderate impact from organic pollution. The benthic community appears to be more sensitive to drought conditions.

4AROA206.27- (Wasena Park) Bio 'IM' Four VSCI surveys (2001-2006) with an average score of 57.4. Non-impaired samples showed an increase in diversity and a decrease in pollution tolerant midge larvae; family Chironomidae. Impaired samples showed a decrease in diversity and an increase in pollution tolerant midge larvae; family Chironomidae.

4AROA202.20- (14th Street Bridge - above STP) Bio 'IM' Five VSCI surveys (2001-2005) with an average score of 51.4 finding impairment. Historically sedimentation has decreased the amount of substrate available for macroinvertebrate colonization. The benthic community declined from fall 2001 to fall 2003 and improved during spring and fall 2004. The fall 2004 survey resulted in a non-impaired score of 65.08. This is the highest VSCI score found at this station. This was the only Roanoke River station sampled in fall 2004 and it was used as the benthic macroinvertebrate sample location for a nearby Probabilistic monitoring site (4AROA202.32). The lower limit for a reference site is 60.0.

4AROA198.08- (Explore Park near the Shenandoah Pavilion) Bio 'IM' Two VSCI surveys 2005 and 2006 both fall scores are 56.3 and 55.0. Both surveys had benthic communities dominated by net-spinning caddisfly larvae (Hydropsychidae). These organisms typically dominate streams that have high amounts of organic matter. Both surveys had low numbers of pollution sensitive taxa such as mayflies and stoneflies. In stream habitat, riparian zone vegetation, and bank stability are all optimal providing conditions favorable for a healthy benthic community. However, algae (filamentous and periphyton) growth is thick on stream substrates indicating that nutrients may be excessive.

Roanoke River

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

14.45

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Drought-related Impacts

Industrial Point Source
Discharge

Industrial/Commercial Site
Stormwater Discharge
(Permitted)

Municipal (Urbanized High
Density Area)

Municipal Point Source
Discharges

Post-development Erosion
and Sedimentation

Residential Districts

Sediment Resuspension
(Clean Sediment)

Sediment Resuspension
(Contaminated Sediment)

Wet Weather Discharges
(Point Source and
Combination of Stormwater,
SSO or CSO)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-02-BAC** **Mud Lick Creek**

Location: Mud Lick Creek mainstem from its confluence on the Roanoke River upstream to its headwaters.

City / County: Roanoke City Roanoke Co. Salem City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Mud Lick Creek 2006 303(d) Listed bacterial impairment extends for 6.83 miles.

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Mud Lick Creek bacteria impairment.

4AMDL000.34- (Downstream of Brambleton Ave. behind Shell) E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in four of 12 observations. Exceeding values range from 550 cfu/100 ml to greater than 2000. The 2006 initial 303(d) Listing reports four of nine exceedences with the same range of exceedence.

Mud Lick Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

6.83

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-02-BEN**

Mud Lick Creek

Location: Mud Lick Creek mainstem from its confluence on the Roanoke River upstream to its headwaters.

City / County: Roanoke City

Roanoke Co.

Salem City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Virginia Stream Condition Index (VSCI) surveys find the Mud Lick Creek benthic community is impaired for 6.83 miles as a result of the 2008 assessment. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is complete with US EPA approval on 5/10/2006 [Fed. ID - NA] and SWCB approved 9/07/2006. The approved TMDL did not specifically address the Mud Lick Creek benthic impairment.

4AMDL003.34- (Downstream of Brambleton Ave. behind Shell) Bio 'IM' Two VSCI surveys spring 2006 scoring 22.2 and fall 2005 scoring 35.1. Habitat data show stream impacts related to sedimentation, extensive bank erosion, and riparian zone disturbance. Low scores were observed for most of the eight individual metrics in the VSCI indicating a benthic community that is tolerant of pollution. Urban land cover with high levels of impervious surface causes an altered hydrology and resulting bank erosion. Sedimentation impacts may also be increased as land in the watershed is quickly being developed.

4AMDL002.93- (Near Foot Bridge Lower Station) Bio 'IM' Three VSCI surveys (2005 - 2006) with an average score of 29.9. The one spring benthic sample scored lower than the two fall samples. This appears to be a result of fewer EPT taxa and more Chironomid midges. Most of the individual metrics in the VSCI show a degraded benthic community that is tolerant of pollution.

Mud Lick Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

6.83

Sources:

Loss of Riparian Habitat

Municipal (Urbanized High
Density Area)

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-04-BAC** **Ore Branch**

Location: Ore Branch mainstem headwaters near Hunting Hills downstream to its confluence with the Roanoke River (Garden City and Roanoke Quads).

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Ore Branch Bacteria TMDL Study is complete and US EPA approved 8/02/2006 FED ID 24539. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 2.42 mile Recreational impairment remains.

4AORE000.19- (Sherwood Avenue - Roanoke City) Initially 303(d) Listed in 1996 for fecal coliform 2008 data reveal E.coli bacteria exceed the 235 cfu/100 ml instantaneous criterion in 22 of 33 observations. The range of exceedence is from 320 cfu/100 ml to 7600. The 2006 Integrated Report (IR) finds E.coli exceeds the instantaneous criterion of 235 cfu/100 ml in 16 of 21 samples. Exceedences are the same range as in 2008. Five of six geometric mean calculations exceed the 126 cfu/100 ml criterion in both 2008 and 2006.

Ore Branch

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

2.42

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-05-BAC** **Mason Creek**

Location: Mason Creek mainstem from the Mason Cove Community, river mile 7.61, extending downstream to the mouth of Mason Creek on the Roanoke River (Salem Quad).

City / County: Roanoke Co. Salem City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Mason Creek Recreational Use remains impaired for 7.56 miles from the original 2002 303(d) Listing based on 1997 special study (SS 975101) samples and fecal coliform exceedences.

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Mason Creek bacteria impairment.

4AMSN000.67- (Boulevard) Seven of 32 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml in 2008. Exceedences range from 250 to 1000 cfu/100 ml. E.coli geometric means exceed the 126 cfu/100 ml criterion in two of four calculations. 2006 Integrated Report (IR) shows five of 20 E.coli samples exceed the instantaneous criterion with the same range of exceedence. E.coli geometric means exceed the 126 cfu/100 ml criterion in three of five calculations.

Mason Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

7.56

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-05-BEN**

Mason Creek

Location: Mason Creek mainstem from the Mason Cove Community, river mile 7.61, extending downstream to the mouth of Mason Creek on the Roanoke River (Salem Quad).

City / County: Roanoke Co.

Salem City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Mason Creek benthic community exhibits impaired conditions for the 7.56 mile 2008 303(d) Listed waters. The Roanoke River General Standard - Benthic (Sediment) TMDL Study is complete with US EPA approval on 5/10/2006 [Fed. ID - NA] and SWCB approved 9/07/2006. The approved TMDL did not specifically address the Mason Creek benthic impairment.

4AMSN003.05- (Off Kessler Mill Rd.) Bio 'IM' Three Virginia Stream Condition Index (VSCI) surveys (2004 - 2005) with an average score of 55.4. The average VSCI score indicates the benthic community is impaired. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations.

4AMSN000.53- (Arnold Burton Technical School Campus) Bio 'IM' Three VSCI surveys (2004 - 2005) with an average score of 37.6. The benthic community is dominated by pollution tolerant organisms. Most of the habitat scores are in the optimal and sub-optimal range indicating that potential water quality problems are related to water chemistry rather than habitat limitations.

Mason Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

7.56

Sources:

Loss of Riparian Habitat

Municipal (Urbanized High
Density Area)

Residential Districts

Urban Runoff/Storm Sewers

Wet Weather Discharges
(Point Source and
Combination of Stormwater,
SSO or CSO)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-06-BAC** **Peters Creek**

Location: Peters Creek mainstem from its headwaters (Salem Quad) extending downstream to the Peters Creek confluence on the Roanoke River (Roanoke Quad).

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 2002 303(d) Listed 7.14 mile Peters Creek Recreational impairment remains.

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles on the Roanoke and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Peters Creek bacteria Impairment.

4APEE001.04- (Shenandoah Avenue Bridge) Data within the 2008 data window find E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 11 of 32 observations ranging from 250 cfu/100 ml to >2000. The E.coli geometric mean of 126 cfu/100 ml is exceeded in three of five calculations. The 2006 Integrated Report (IR) finds the same range of exceedence and geometric mean excursions from 10 of 20 samples. The original 2002 bacteria 303(d) Listing is based on a Special Study (SS 975101) conducted in 1997 where fecal coliform data resulted in geometric mean exceedences derived from the special study data.

Peters Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

7.14

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L04R-07-BAC** **Murray Run**

Location: Murray Run mainstem from its headwaters to its mouth on the Roanoke River.

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Escherichia coli (E.coli) will replace fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Murray Run 3.22 mile 2004 303(d) Listed Recreational impairment remains.

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Murray Run bacteria impairment.

4AMUR001.63- There are no additional data beyond the 2004 Integrated Report (IR). The 2004 IR reports FC exceeds the 400 cfu/100 ml instantaneous criterion in two of six observations. Exceeding values are 600 and 8000+ cfu/100 ml. Observations within the 2008 data window find one of three FC samples in excess of the instantaneous criterion.

Murray Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			3.22

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Municipal (Urbanized High Density Area)	Sanitary Sewer Overflows (Collection System Failures)	Wet Weather Discharges (Non-Point Source)
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-01-BAC** **Tinker Creek**

Location: Tinker Creek mainstem from its headwaters downstream to the Tinker Creek confluence with the Roanoke River.

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Originally 303(d) Listed in 1998 for fecal coliform (FC) bacteria the Tinker Creek Bacteria TMDL Study is complete and US EPA approved 8/05/2004; SWCB approved 12/02/2004 [FED IDs: 7787 (FC), 21671 and 21672]. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 19.33 mile bacteria impairment remains.

4ATKR015.88 (Off Rt. 779 at USGS Gage) Current ambient collections find E.coli in excess of the 235 cfu/100 ml instantaneous criterion in 18 of 30 samples. Exceeding values range from 270 to 2300 cfu/100 ml. E. coli geometric mean exceedences are derived from five of six calculations. 2006 Integrated Report (IR) exceedence range is the same from 17 of 25 samples in excess of the instantaneous criterion. Geometric mean exceedences are derived from five of five calculations.

4ATKR009.30 (Rt. 11 Bridge near Hollins) E. coli samples reveal 10 excursions of the 235 cfu/100 ml instantaneous criterion from 18 samples. Exceedences range from 250 to 1100 cfu/100 ml. 2006 IR reports nine of 15 E. coli excursions of the instantaneous criterion. Exceedences range from 420 to 1100 cfu/100 ml.

4ATKR000.69 (Rt. 24 Bridge, Vinton) E.coli exceed the instantaneous criterion of 235 cfu/100 ml in 29 of 44 observations ranging from 250 cfu/100 ml to greater than 2000. Seven of nine geometric mean (GM) calculations exceed the 126 cfu/100 ml criterion. The 2006 IR found E.coli exceeding the instantaneous criterion in 20 of 30 observations. Exceeding values range from 300 cfu/100 ml to greater than 2000. Seven of eight geometric mean calculations exceed the criterion.

Tinker Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

19.33

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-01-TEMP** **Tinker Creek**

Location: Tinker Creek mainstem from the confluence of Buffalo Creek downstream to its confluence with the Roanoke River.

City / County: Botetourt Co. Roanoke City Roanoke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

DGIF by letter dated 3/13/2006 has determined these 11.87 mile waters are misclassified as Class V and are Class IV - Mountainous Zone waters with a temperature criterion of 31°C. The stream classification of these waters will be considered during the next Triennial Review of Water Quality Standards. Temperature would not exceed the Class IV criterion based on the excursions noted below and is categorized 4C.

4ATKR009.30- (Rt. 11 Bridge - near Hollins) Temperature exceeds the stockable trout water criterion (21°C) in three of 23 measurements at 23°C (6/04/2002); 25 °C (8/08/2001) and 21.2°C (7/06/2004).

4ATKR000.69- (Rt. 24 Bridge in Vinton) An Attachment A station, 10 of 48 measurements exceed the Class V temperature criterion (21°C). Exceedences range from 21.1°C to 23.4°C.

Tinker Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			11.87

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-02-BAC** Carvin Creek

Location: Carvin Creek mainstem from just upstream of I-81 at the mouth of an unnamed tributary extending downstream to the mouth of Carvin Creek on Tinker Creek (Roanoke Quad).

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Carvin Creek Bacteria TMDL Study is complete and US EPA approved on 8/05/2004 [FED ID 24541] and SWCB approved on 12/02/2004 (formerly VAW-L05R-02). These waters are previously 303(d) Listed in 2002 based on 1997 Special Study data. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 5.34 mile impairment remains with the 2008 IR.

4ACRV000.28- (Plantation Road -Rt. 115) E.coli exceed the 235 cfu/100 ml instantaneous criterion in six of 12 samples. Exceedences range from 240 to 1500 cfu/100 ml. 2006 Integrated Report (IR) found E.coli exceed the criterion in five of 10 samples ranging from 260 to 1500 cfu/100 ml.

Original 2002 Listing stations below had exceedences of the former fecal coliform instantaneous criterion of 400 cfu/100 ml.

4ACRV005.58- (Plantation Road -Rt. 115)

4ACRV001.88- (Brookside Park off Rt. 623 Hollins)

4ACRV000.28- (Plantation Road -Rt. 115)

Carvin Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

5.34

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-03-BAC**

Glade Creek

Location: Glade Creek mainstem from its headwaters (Stewartsville Quad) downstream to its confluence with Tinker Creek at river mile 0.83. (Roanoke Quad).

City / County: Botetourt Co.

Roanoke City

Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Originally 303(d) Listed in 1998 for 5.72 miles and extended in 2002 (6.85 miles) for fecal coliform bacteria now totals 12.57 miles. The Glade Creek Bacteria TMDL Study is complete with US EPA approval on 8/05/2004 Fed ID 24799 and SWCB approval on 12/02/2004. Formerly VAW-L05R-03. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AGLA008.10- Three of 12 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion. Exceedences range from 250 to 550 cfu/100 ml. Three of 10 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion in 2006 with the same range of exceedence as in 2008.

4AGLA004.39- E.coli exceeds the instantaneous criterion in 10 of 18 samples. The range of exceedence is from 240 to 820 cfu/100 ml. 2006 Integrated Report (IR) finds E.coli exceeds the instantaneous criterion in 10 of 15 samples with the same range of exceedence as in 2008.

4AGLA000.20- The 2008 IR finds 15 of 28 E.coli exceedences of the 235 cfu/100 ml instantaneous criterion. Exceedences range from 250 to greater than 2000 cfu/100 ml. Geometric mean excursions of the 126 cfu/100 ml E.coli criterion are found in four of five calculations. Ten of 25 E.coli instantaneous criterion exceedences are found at this station in 2006. Exceedences range from 320 to greater than 2000 cfu/100 ml. Geometric mean excursions are the same as in 2008.

Glade Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

12.57

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-03-TEMP** **Glade Creek**

Location: Glade Creek mainstem from the mouth of Coyner Spring Branch upstream to its headwaters.

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

DGIF by letter dated March 13, 2006 has determined these waters (6.85 miles) are misclassified and are Class IV - Mountainous Zone waters with a temperature criterion of 31°C. The listing station is located in these waters. Reclassification of these waters will be considered during the next Triennial Review of Water Quality Standards.

These waters were previously 303(d) Listed in 2002 for excursion of the Class VI - Natural Trout Waters criterion of 20°C. There are no additional data.

4AGLA008.10- 1997 Special Study temperature data records three exceedences from seven measurements in 1997. The temperature exceedences occur in the months of June (20.7°C), July (21.7°C) and August (21.8°C). Temperature would not exceed the Class IV criterion based on the excursions noted above and is therefore categorized 4C - Natural Impairment.

Glade Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			6.85

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-04-BAC** **Lick Run**

Location: The upper limit is near Shaffers Crossing rail yard and headwaters from along I-581 on downstream to the mouth of Lick Run on Tinker Creek at river mile 1.41. The 1996, 1998 and 2002 impaired waters have expanded by 5.01 miles with the 2004 Listing (Roanoke Quad).

City / County: Roanoke City Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Originally 303(d) Listed in 2002 for fecal coliform (FC) bacteria. The Tinker Creek Bacteria TMDL Study is complete and US EPA approved 8/05/2004 Fed ID: 24540. SWCB Approved 12/02/2004. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The bacteria impairment remains for these 9.36 mile waters.

4ALCK002.17- (Washington Park) Data within the 2008 data window find E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion in nine of 18 samples. Exceeding values range from 250 to greater than 2000 cfu/100 ml. The 2006 Integrated Report (IR) reveals eight of 15 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion with the same range of exceedence.

4ALCK000.38 (Norfolk Southern parking lot bridge) The 2002 original listing station, found exceedences of the FC instantaneous and geomean criteria in a Special Study conducted in 1997. The 2008 IR finds 19 of 38 E.coli samples in excess of the instantaneous criterion with exceedences ranging from 280 to 3000 cfu/100 ml. Six of six geometric means (GM) exceed the 126 cfu/100 ml criterion. 2006 E.coli excursions of the 235 cfu/100 ml instantaneous criterion are found in 13 of 25 samples with the same exceedence range as in 2008. E. coli GM calculations exceed the criterion in four of five calculations.

Lick Run

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

9.36

Sources:

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Municipal (Urbanized High
Density Area)

Sanitary Sewer Overflows
(Collection System Failures)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L05R-05-BAC** Laymantown Creek

Location: Laymantown Creek mainstem from just upstream of the Rt. 657 Bridge at a small pond downstream to the mouth of Laymantown Creek on Glade Creek (Stewartsville Quad).

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The 2.07 mile 2002 303(d) Listed Laymantown Creek Bacteria TMDL Study is complete and US EPA approved 8/05/2004; Fed ID: 24544. SWCB Approved 12/02/2004. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ALAY000.37- (Rt. 460 Bridge - near Blue Ridge) E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion in two of nine samples. Exceeding values are 300 to and 800 cfu/100 ml. The original 2002 FC listing is based on a Special Study conducted in 1997 where FC instantaneous criterion were exceeded.

Laymantown Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

2.07

Sources:

Livestock (Grazing or
Feeding Operations)
Wildlife Other than
Waterfowl

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wastes from Pets

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L06R-01-BAC** **Back Creek**

Location: Back Creek mainstem waters from just downstream of Rt. 220 near Red Hill on downstream to the mouth of Back Creek on the Roanoke River.

City / County: Roanoke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The Back Creek 2004 9.87 mile fecal coliform bacteria impairment remains. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

The Roanoke River Bacteria TMDL Study is complete and US EPA approved on 8/02/2006 [FED ID 24538] with SWCB approval on 9/07/2006. 1996 & 2002 fecal coliform (FC) observations are the basis for the original Roanoke bacteria impaired listing. The 2008 total bacteria impaired length is 29.51 miles and 350.06 acres in Smith Mountain Lake. The approved TMDL did not specifically address the Back Creek bacteria impairment.

4ABAA000.03- (Off Rt. 618- Rutrough Road) Two of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion exceeding values are 420 and 480 cfu/100 ml.

4ABAA002.61- (Rt. 660 Bridge - at USGS Gaging Station). The original Listing station has no additional data beyond the 2004 Integrated Report (IR). 2004 FC excursions were as follows: FC exceeds the 400 cfu/100 ml instantaneous criterion in three of 19 samples. Exceeding observations are 500, 2400 and 3700 cfu/100 ml.

Back Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

9.87

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L07R-01-BAC** **Beaverdam Creek**

Location: Beaverdam Creek mainstem waters from the WQS designated public water supply (PWS) section, eg. 5 miles above the 795 ft. pool elevation of Smith Mtn. Lake on downstream to the inundation of Beaverdam Creek's waters at Smith Mountain Lake at River Mile 2.78 (Stewartsville, Irving, Goodview and Hardy Quads).

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Beaverdam Creek Bacteria TMDL Load Duration Study is complete and US EPA approved 7/07/2006 FED ID 17733. The 1999 Federal Consent Decree includes 4ABDA003.63 as an Attachment B station for fecal coliform bacteria- 303(d) Listed 2002. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 4.76 bacteria impairment remains.

4ABDA003.63- (Off Rt. 757) E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 20 of 33 samples. Exceeding observations range from 300 to greater than 2000 cfu/100 ml. Five of six geometric means exceed the 126 cfu/100 ml criterion. The 2006 Integrated Report (IR) reveals exceedences of the instantaneous criterion in 14 of 21 samples. Exceeding observations range from 300 to 1800 cfu/100 ml.

Beaverdam Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

4.76

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-01-BAC** **Green Creek**

Location: Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork of the Blackwater River begins (Callaway Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Green Creek 3.90 mile bacteria impairment is a 1998 303(d) Listing (formerly VAW-L08R-01). The Bacteria Total Maximum Daily Load (TMDL) Study and allocations for the South Fork Blackwater River is complete with US EPA approval on 02/02/2001 and SWCB approval on 6/17/2004 [Fed IDs: 1886 / 7791 / 21330 / 24549].

The Upper Blackwater River Bacteria Implementation Plan received SWCB approval on 6/17/2004. Green Creek is tributary to the South Fork and is included in the TMDL Study and allocations. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study and Implementation Plans can be viewed at <http://www.deq.virginia.gov>.

Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AGCR000.01- (Rt. 739 Bridge at Algoma) Finds three of nine E.coli samples in excess of the 235 cfu/100 ml instantaneous criterion ranging from 280 to 300 cfu/100 ml.

Green Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

3.90

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-01-TEMP** **Green Creek**

Location: Green Creek mainstem from its perennial headwaters downstream to the community of Algoma where the South Fork of the Blackwater River begins.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The 3.90 mile temperature impairment remains from the 2002 initial 303(d) Listing.

4AGCR000.01- (Rt. 739 Bridge at Algoma) The 2008 assessment reveals two of 14 Temperature measurements exceed the Class VI natural trout water criterion of 20°C (Category 5C). Each exceedence is at 22.7°C occurring on 7/11/2001 and 20.8°C on 9/18/2002. These excursions occur during dry conditions.

Green Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			3.90

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-02-BAC** **Blackwater River, South Fork**

Location: South Fork Blackwater waters from the Rt. 739 Bridge in Algoma, Va. (Callaway Quad) on downstream just west of the Rt. 641 Bridge where the North and South Forks join forming the Blackwater River.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The South Fork Blackwater River TMDL Bacteria Study is complete and U.S. EPA approved 2/02/2001. SWCB approved 6/17/2004 [Fed. IDs: 1886 / 7791 / 21330 / 24549]. The Bacteria Implementation Plan is SWCB approved 6/17/2004. The waters are originally 303(d) Listed in 1996 for fecal coliform bacteria (FC) for 6.04 miles.

The Upper Blackwater River Bacteria Implementation Plan is complete as of 8/23/2001 with SWCB approval on 6/17/2004. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study and Implementation Plans can be viewed at <http://www.deq.virginia.gov>.

The South Fork Blackwater River 1996 303(d) Listed impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform bacteria sample collections. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedences of both the existing geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) now replaces fecal coliform as the bacteria indicator in the Blackwater River drainage as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 6.06 mile bacteria impairment remains.

4ABSF001.15- (Rt. 641 Bridge east of Callaway) E.coli exceed the 235 cfu/100 ml instantaneous criterion in 19 of 27 samples. Excursions range from 420 to greater than 2000 cfu/100 ml. Twenty of 26 samples exceeded the instantaneous criterion in 2006 ranging from 250 to greater than 2000 cfu/100 ml.

Blackwater River, South Fork

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

6.04

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-02-TEMP** **Blackwater River, South Fork**

Location: South Fork Blackwater waters from the Rt. 739 Bridge in Algoma, Va. (Callaway Quad) on downstream just west of the Rt. 641 Bridge where the North and South Forks join forming the Blackwater River.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The Temperature impairment on the South Fork Blackwater River returns with the 2008 IR (see below).

4ABSF001.15- (Rt. 641 Bridge east of Callaway) Three of 26 temperature measurements exceed the Class V Stockable Trout waters criterion of 21 °C. Exceedences occur in the summer months of June and August 2005 (24.1 & 22.4 °Cat) and August 2006 (23.4 °C). The South Fork Blackwater River was delisted in 2004 for temperature but returns with the 2008 Assessment.

2004 Blackwater River, South Fork Delist of 2002 303(d) Temperature Listing (VAW-L08R-02):
The South Fork of the Blackwater River was incorrectly listed in the 2002 Integrated Report. Review of stream gaging data at 02056900 Blackwater River - Rocky Mount, Virginia records the stream flow at less than the 7Q10 of 12 cubic feet per second (cfs). 7Q10 is the lowest stream flow averaged (arithmetic mean) over a period of seven (7) consecutive days that can be statistically expected to occur once every 10 climatic years. A climatic year begins April 1 and ends March 31. One temperature measurement on August 10, 1999 was collected while daily average stream flow was 10 cfs. The 2002 assessment found excursions of the Water Quality Standards Class V 21 °C temperature criterion in two of 14 measurements taken at 4ABSF001.15 (Rt. 641 Bridge east of Callaway). The exceedences occur on August 10, 1999 and June 27, 2000. 2004 Integrated Report finds no exceedences from 19 temperature measurements. WQS do not apply for dissolved oxygen, temperature or pH when stream flows are less than the 7Q10 [Water Quality Standards 9 VAC 25-260-50 Numerical criteria for dissolved oxygen, pH and maximum temperature***].

Blackwater River, South Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			6.04

Sources:

Natural Conditions - Water Source Unknown
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-03-BAC**

Blackwater River, North Fork

Location: North Fork Blackwater River headwaters (~12.25 mi. upstream) on the Bent Mt. Quad on downstream to its confluence with the South Fork Blackwater River forming the Blackwater River (Callaway Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The North Fork of the Blackwater River Bacteria TMDL Study is complete and US EPA approved on 3/09/2001 [Fed. ID 7790 & 20479] and SWCB approved on 6/17/2004. The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) receiving SWCB approval on 6/17/2004. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study allocations and Implementation Plans can be viewed at <http://www.deq.virginia.gov>.

The 12.20 mile North Fork Blackwater River bacteria impairment initially 303(d) Listed in 1996 is based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedences of both the existing geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform as the bacteria indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ABNR004.56- (Rt. 742 Bridge near Dillions Mill) In both 2008 and 2006 two of six E.coli observations exceed the instantaneous criterion. Values in excess of the criterion are both greater than 800 cfu/100 ml. There are no additional data.

4ABNR000.40- (Rt. 740 Bridge S.W. of Retreat) E.coli exceed the 235 cfu/100 ml instantaneous criterion in 20 of 33 samples. Maxima range from 250 cfu/100 ml to greater than 2000. The 2006 Integrated Report (IR) finds E.coli exceed the instantaneous criterion in 19 of 32 samples. Maxima range from 575 cfu/100 ml to greater than 1800.

Blackwater River, North Fork

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

12.20

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-03-BEN**

Blackwater River, North Fork

Location: North Fork Blackwater River mainstem from the Dillions Mill community downstream to the North Fork's confluence with the South Fork on the Blackwater River.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

North Fork Blackwater River General Standard Benthic [FED ID 24548 Phosphorus & FED ID 24550 Sediment] TMDL Study is complete and U.S. EPA approved 4/26/2004. SWCB approved 8/31/2004. Originally 303(d) listed in 1996 the 3.24 mile benthic impairment remains.

4ABNR001.53- Bio 'IM' Two Virginia Stream Condition Index (VSCI) surveys (2001 - 2002 all Spring) with an average score of 52.8. This site was first surveyed on 7/26/00 as part of benthic TMDL special study in the Blackwater River Watershed. It was sampled in spring 2001 and 2002 along with the other impact sites in the North Fork of the Blackwater River. The benthic community was dominated by several pollution tolerant organisms including midge fly larvae (Chironomidae) which are tolerant of sediment and low dissolved oxygen. The 1999-2001 drought impacted the ecoregion reference stations at Green Creek and Pigg River resulting in a decrease in the benthic community scores. However, the historically impaired stations in the North Fork and the Blackwater did not appear to decrease with the reference site. Instead, some metrics (%Chironomidae, %Ephemeroptera) improved. It appears that less runoff from adjacent fields and pastures may have helped improve the benthic community scores during the drought.

4ABNR000.40- Bio 'IM' 4 VSCI surveys (2001/2002-Spring & 2006). The average VSCI score was 47.4 during the assessment period, indicating an impaired condition. In-stream habitat (substrate) has been impacted by fine sediment. Riparian zone vegetation has been removed and stream banks eroded due to unrestricted cattle access to the stream. This region was affected by several drought years early in the assessment period. Less runoff of non-point source pollution during the low rainfall periods potentially resulted in an improvement in the benthic community. Additionally, recent installation of agricultural best management practices in the watershed have improved water quality. The Soil and Water Conservation District is implementing agricultural best management practices in the watershed.

Blackwater River, North Fork

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

3.24

Sources:

Livestock (Grazing or
Feeding Operations)

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization

*Appendix A - List of Impaired (Category 5) Waters in 2008**

Roanoke and Yadkin River Basins

Cause Group Code **L08R-04-BAC**

Blackwater River (Upper)

Location: Blackwater River from the confluence of the North and South Forks of the Blackwater River (Callaway Quad) on downstream to the Rt. 122 bridge crossing.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Bacteria Total Maximum Daily Load (TMDL) Studies and allocations are complete for the Upper, Middle and Lower Blackwater River drainages. These studies incorporate tributary streams that lie within the boundaries of watershed VAW-L08R and a portion of L10R. This Fact sheet addresses the Upper and Middle Blackwater River drainages.

Bacteria TMDL Study approvals from the US Environmental Protection Agency (EPA) were obtained on 03/09/2001 for the Upper Blackwater River [Fed. ID 1887 / 9634], the Middle Blackwater on 12/04/2001 [Fed. ID 1887 / 1889 / 9633] and the Lower Blackwater River on 04/27/2001 [Fed. ID 1888]. Each of the aforementioned TMDL Studies were approved by the SWCB on 6/17/2004. Each TMDL Study found Wildlife is a major source of bacterial contamination via TMDL Bacteria Source Tracking (BST). The studies were formerly coded:

Upper Blackwater River - VAW-L08R-01-Green Creek and VAW-L08R-04-Blackwater.

Middle Blackwater - VAW-L08R-04 - Blackwater, VAW-L08R-05 - Little Creek, VAW-L08R-06 - Teels Creek).

Lower Blackwater River - VAW-L08R-04 - Blackwater

The Upper Blackwater River Bacteria Implementation Plan covering Upper and Middle Blackwater River TMDL Studies is complete (8/23/2001) and SWCB approved on 6/17/2004. The Lower Blackwater River Bacteria Implementation Plan is complete awaiting SWCB approval. The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River drainage (L08R) to include the North and South Forks, Little and Teels Creeks. The Lower Blackwater River Bacteria Implementation Plan encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggodee (L09R) and Gills Creeks (L11R). The entirety of the approved studies with allocations and Implementation Plans can be viewed at <http://www.deq.virginia.gov>.

Blackwater River:

The Blackwater River impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform bacteria counts failed to support the recreational use by exceedences of both the existing geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. This Fact Sheet addresses 28.21 miles of the Blackwater River mainstem bacteria impaired miles that total 39.50 (See L10R-01-BAC Fact Sheet for the remainder). Escherichia coli (E.coli) has replaced fecal coliform as the indicator bacteria as per [9 VAC 25-260-170. Bacteria; other waters].

Upper Blackwater River (15.71 miles):

4ABWR061.20- (Rt. 641 Bridge) E.coli exceed the 235 cfu/100 ml instantaneous criterion in 20 of 31 samples. The maximum exceedence is 1800 and the lowest 290 cfu/100 ml. E.coli exceed in 13 of 18 samples in 2006. The maximum exceedence is greater than 800 and the lowest 310 cfu/100 ml.

4ABWR054.81- (Rt. 734 Bridge) The 2008 Integrated Report (IR) finds six E. coli samples exceed the 235 cfu/100 ml instantaneous criterion from a total of nine samples. Exceeding values range from 250 to greater than 800 cfu/100 ml.

Fourteen E. coli samples exceed the instantaneous criterion from a total of 20 collections within the 2006 data window. The exceeding values range from 250 to greater than 800 cfu/100 ml.

Middle Blackwater River (12.50 miles):

4ABWR045.80- (Rt. 812 Bridge) E.coli exceed in 15 of 33 samples in excess of the instantaneous criterion. Excursions range from 250 cfu/100 ml to greater than 2000. The 2006 IR records exceedences in 15 of 32 samples ranging from 260 cfu/100 ml to greater than 1000.

4ABWR032.32- (Rt. 122 Bridge at the stream gaging station) There are no additional data beyond the 2006 IR. This station will no longer be sampled due to safety concerns. 2006 IR reports E.coli exceed the 235 cfu/100 ml instantaneous criterion in six of 21 samples ranging from 490 to greater than 800 cfu/100 ml. E.coli samples within the 2008 data window find one of 10 in excess of the instantaneous criterion.

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Blackwater River (Upper)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			28.21

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-04-BEN** **Blackwater River**

Location: Blackwater River from the confluence of the North and South Forks of the Blackwater downstream to the mouth of Maple Branch (37°01'14" / 79°58'42").

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The Upper Blackwater River General Standard Benthic (Phosphorus FED ID 7789 & Sediment FED ID 23397) TMDL Study & Allocations is complete with US EPA approval on 4/26/2004 and SWCB approval on 8/31/2004 (formerly VAW-L08R-04).

The original 1996 General Standard benthic impairment was based on Green Creek (Blue Ridge) as a reference site. The reference site for the Blackwater River mainstem stations is now in the Pigg River drainage (transitional Blue Ridge to Piedmont). The Pigg River reference site is believed to more closely reflect conditions in the Blackwater River mainstem.

The original 1996 303(d) Listed benthic impaired waters extended from the confluence of the North and South Forks of the Blackwater River on downstream of the Rt. 921 Bridge approximately 1.3 miles at the confluence of an unnamed tributary (25.24 miles). The impaired waters were shortened with the 2004 Integrated Report partial de-listing based on improved conditions at downstream stations 4ABWR049.73 and 4ABWR045.80 through the former Rapid Bioassessment Protocol II (RBP II Method) benthic surveys. The US Environmental Protection Agency approved the partial de-listing on January 27, 2004. The General Standard (Benthic) impairment is now spans 5.61 miles- Category 4A.

Station 4ABWR061.20 (Rt. 641 Bridge) Bio 'IM' Three (2002 spring & 2006 spring and fall) Virginia Stream Condition Index (VSCI) surveys with an average score of 54.0. Water quality in this reach is affected by NPS pollution from dairy farms from primarily the North Fork of the Blackwater River. Habitat degradation in the form of sediment deposition and riparian vegetation removal occurs at this sight as a result of agricultural practices. This area was affected by several drought years within the 2004 thru 2008 assessment periods. Less runoff of nonpoint source pollution during low rainfall periods potentially resulted in an improvement in the benthic community. Recent installation of agricultural best management practices in the watershed also contribute to improved water quality.

Blackwater River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.61

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-05-BAC**

Little Creek and Little Creek, UT (XKF)

Location: Little Creek and an unnamed tributary (XKF) from just west of Helm off Rt. 693 extending downstream to the Little Creek mouth on the Blackwater River (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Middle Blackwater River Bacteria Total Maximum Daily Load (TMDL) Study and allocations are complete. The Little Creek bacteria impairment is a 1998 (2002) 303(d) Listing for fecal coliform bacteria (formerly VAW-L08R-05). An unnamed tributary (XKF) contributes to the impairment for a total of 8.60 bacteria impaired miles. The Middle Blackwater River Bacteria TMDL Study received US EPA approval on 12/04/2001 [Fed. ID 1887(1889)/9633] and SWCB approved 6/17/2004.

The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) and SWCB approved on 6/17/2004. Little Creek (formerly VAW-L08R-05) is tributary to the Blackwater River and is included in the approved bacteria TMDL Study. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study with allocations and the Implementation Plan can be viewed at <http://www.deq.virginia.gov>.

The Blackwater River bacteria impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform bacteria counts failed to support the recreational use by exceedences of both the existing geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform as the indicator at the majority of monitoring sites in the Blackwater River drainage as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Little Creek (7.60 miles):

Monitoring continues at 4ALLE005.22 (Rt. 697 Bridge) where 20 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion from a total of 27 collections. The exceeding values range from 290 to greater than 2000 cfu/100 ml. Wildlife is a major source of FC via TMDL Bacteria Source Tracking (BST). In 2006 21 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion from a total of 26 samples. The exceeding values range from 280 to 1000 cfu/100 ml.

Little Creek, UT (XKF 0.99 miles):

4AXKF000.20- (Off Rt. 735) 4AXKF000.20- Bacteria collection only. Five E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion; all are greater than 2000 cfu/100 ml. 2006 results find two E.coli of two samples exceed the instantaneous criterion; both at greater than 2000 cfu/100 ml.

Little Creek and Little Creek, UT (XKF)

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

8.59

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-05-BEN** **Little Creek**

Location: Little Creek mainstem extending from the confluence of an unnamed tributary (XKF) from just west of Helm off Rt. 693 on downstream to the Little Creek mouth on the Blackwater River (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The aquatic life use is not supported for 7.60 miles due to contravention of the General Standard for aquatic life (formerly VAW-L08R-05). The waters are categorized 5A for the General Standard (Benthic) impairment. The benthic impairment is not addressed in the EPA approved Upper Blackwater River Benthic TMDL Study. The General Standard (Benthic) impairment is a 2002 initial 303(d) Listing.

4ALLE005.22- (Rt. 697 Bridge) Bio 'IM' Two spring Virginia Stream Condition Index (VSCI) surveys (2001 & 2002) produce an average score of 32.2. The benthic community in Little Creek was dominated by Chironomidae midge larvae and consistently lacked diversity and pollution sensitive taxa. The assemblages collected at this site indicate excessive organic matter, excessive nutrients, and embedded substrates. Habitat surveys also indicate impacts from sediment deposition removal of riparian buffers.

Little Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.60

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization
Wet Weather Discharges (Non-Point Source)			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-06-BAC** **Teels Creek**

Location: Teel Creek mainstem perennial headwaters downstream to its confluence with Little Creek (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Middle Blackwater River Bacteria Total Maximum Daily Load (TMDL) Study is complete and received US EPA approval on 12/04/2001 [Fed. ID 1887 / 1889 / 9633] and SWCB approval on 6/17/2004. The SWCB approved the Bacteria Implementation Plan on 6/17/2004. The Teels Creek bacteria impairment is a 4.59 mile 1998 (2002) 303(d) Listing for fecal coliform (FC) bacteria (formerly VAW-L08R-06).

The Upper Blackwater River Bacteria Implementation Plan is complete (8/23/2001) and SWCB approved on 6/17/2004. Teels Creek is tributary to Little Creek and then onto the Blackwater River and is included in this approved bacteria TMDL Study. The TMDL Study identified Wildlife as a major source based on TMDL Bacteria Source Tracking (BST). The Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The entirety of the approved TMDL Study with allocations and Implementation Plans can be viewed at <http://www.deq.virginia.gov>.

The Blackwater River bacteria impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform bacteria sample collections. The 1996 303(d) Listed Blackwater River waters found abundant fecal coliform bacteria counts failed to support the recreational use by exceedences of both the existing geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) now replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ATEL001.02- (Rt. 697 Bridge) The 2008 Integrated Report (IR) finds E. coli exceeds the 235 cfu/100 ml instantaneous criterion in 17 of 27 samples ranging from 250 cfu/100 ml to 1400. In 2006 E. coli exceedences are 19 of 26 samples. The maximum exceedence is greater than 800 and the lowest 250 cfu/100 ml.

Teels Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.59

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-06-BEN** **Teels Creek**

Location: Teel Creek mainstem perennial headwaters downstream to its confluence with Little Creek (Boones Mill Quad).

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The aquatic life use is not supported for 4.59 miles due to contravention of the General Standard for aquatic life (formerly VAW-L08R-06). The waters are categorized 5A for the 2002 initially 303(d) Listed General Standard (Benthic) impairment. The General Standard (benthic) impairment is not addressed in the EPA approved Upper Blackwater River Benthic TMDL Study.

4ATEL001.02- (Rt. 697 Bridge) Bio 'IM' A single 2002 Virginia Stream Condition Index (VSCI) survey scores 60.2. Although the VSCI score in 2002 was above the limit (60.0) for non-impairment, previous surveys indicated impairment. The community in spring 2002 had approximately 50% pollution tolerant organisms. The assemblages collected at this site indicated excessive organic matter, and embedded substrates. Habitat surveys also indicate impacts from sediment deposition, eroded banks and removal of riparian buffers.

Teels Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.59

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization
Wet Weather Discharges (Non-Point Source)			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L08R-07-BEN** **Buck Run**

Location: Buck Run from its confluence on Little Creek upstream to its headwaters.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The benthic community is impaired for 3.61 miles for this 2008 303(d) Listing.

4ABCE000.87- (Downstream of Rt. 731; end of Twin Hollow Lane) Bio 'IM' Two 2006 VSCI surveys scoring 38.6 spring and 41.6 fall. There was lower taxa richness in the fall. The benthic community was dominated by midge and blackfly larvae in the spring and net-spinning caddisflies in the fall indicating a nutrient and organic enriched environment. The average Stream Condition Index (SCI) score was 40.1. The in stream habitat was affected by sediment deposition and thick periphyton growth on rocky substrates. Bank vegetation and riparian zones are impacted by the land use. DO, Temp, pH, TP, NH3-N and chlorides Fully Support.

Buck Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.61

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Sediment Resuspension (Clean Sediment)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L09R-01-BAC** **Maggodee Creek**

Location: The upstream limit is Maggodee Creek mainstem waters from the Boones Mill Town area downstream to the mouth of Maggodee Creek on the Blackwater River.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Maggodee Creek Bacteria TMDL Study and allocations received US EPA approval on 4/27/2001 [Fed. ID 1562/9475] and SWCB approval on 6/17/2004 (formerly VAW-L09R-01) for the former 20.18 mile impairment. A total of 15.78 miles remain impaired for the Recreational Use.

The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L09R. The Lower Blackwater River Bacteria Implementation Plan is complete and awaits SWCB approval. The Lower Blackwater River Bacteria Implementation Plan encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study with allocations can be viewed at <http://www.deq.virginia.gov>.

The bacteria impairment is a 1996 303(d) Listing based on a 319 funded special study (SS 925102) and ambient sample collections. Abundant fecal coliform (FC) bacteria counts failed to support the recreational use by exceedences of both the geometric mean (200 n/100 ml) and the former (2002) instantaneous criterion of 1000 n/100 ml. Escherichia coli (E.coli) now replaces fecal coliform bacteria as the indicator per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 2008 Integrated Report (IR) results from station 4AMEE021.13 (Rt. 613 Bridge Below Conflu./w Fork) find no excursions of the E.coli 235 cfu/100 ml instantaneous criterion from 12 samples. This portion (4.40 miles) is partially delisted with the 2008 IR leaving the remaining impaired total at 15.78 miles.

4AMEE009.86- (Rt. 635 Bridge) E.coli exceeds the instantaneous criterion of 235 cfu/100 ml in seven of 18 samples ranging from 250 to greater than 800 cfu/100 ml.

4AMEE007.85- (Rt. 687 Bridge above Mollie Br.) There are no additional data beyond the 2006 IR where E.coli exceed the WQS instantaneous criterion in eight of 17 observations. The range of exceedence is from 240 to greater than 800 cfu/100 ml. Observations within the 2008 data window are two of six excursions of the instantaneous criterion.

4AMEE004.90- (Rt. 697 Bridge) E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in 16 of 27 observations. The range of exceedence is from 240 cfu/100 ml to greater than 800. Sixteen of 26 observations exceed in 2006 with an exceedence range of 310 cfu/100 ml to greater than 800.

Maggodee Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

15.78

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L09R-01-BEN** **Maggodee Creek**

Location: Maggodee Creek mainstem from Piedmont Mill Dam downstream to the mouth of Maggodee Creek on the Blackwater River.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Non-support of the aquatic life use is originally based (2002- formerly VAW-L09R-01) on Rapid Bioassessment Protocol II surveys (RBP II) conducted at 4AMEE002.38. The station is no longer accessible and is moved to 4AMEE000.70 and assessed using the Virginia Stream Condition Index (VSCI). The 7.36 mile 2002 303(d) Listed General Standard (Benthic) impairment remains.

4AMEE000.70- (Below Rt. 122 Bridge) One 2002 Virginia Stream Condition Index (VSCI) survey scoring 47.2. Bio 'IM' Sediment deposition from agricultural runoff appears to have a large impact on the benthic community. Habitat scores for embeddedness and sediment deposition were the lowest of the ten habitat parameters. Both parameters fell in the marginal category. In 2006 three RBP II surveys, outside the 2008 data window, produce an average score of 44.9 at this site. Two surveys in the spring result in scores of 30.43 (2000) and 52.17 (2002). The fall 2000 survey score is 52.17.

Maggodee Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.36

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L09R-01-TEMP** **Maggodee Creek**

Location: Maggodee Creek mainstem waters from the confluence of North and South Forks of Maggodee Creek downstream to just below the Rt. 220 crossing at Boones Mill.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The Aquatic Life Use is not supported for 4.40 miles due to temperature exceedences for this stockable trout water.

4AMEE021.13- (Rt. 613 Bridge Below Conflu./w Fork) One temperature exceedence is found at 21.1°C on 8/5/2004 and a second at 21.4°C on 6/30/2005 from 12 measurements. These excursions are in excess of the 21°C stockable trout water criterion.

Maggodee Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			4.40

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L09R-02-BAC**

Mollie Branch

Location: The impairment begins in the headwaters of Mollie Branch and extends to its mouth on Maggodee Creek (Boones Mill and Redwood Quads).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Maggodee Creek Bacteria Total Maximum Daily Load (TMDL) Study is complete and US Environmental Protection Agency (EPA) approved on 4/27/2001 [Fed. ID 1562 / 9475] and SWCB approved on 6/17/2004 (formerly VAW-L09R-02). Originally 303(d) Listed 1998 (2002) for FC. The study incorporates tributary streams that lie within the boundaries of watershed VAW-L09R. The Lower Blackwater River Bacteria Implementation Plan is complete with SWCB approval on 9/27/2006. The Bacteria Implementation Plan encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study can be viewed at <http://www.deq.virginia.gov>.

The Mollie Branch bacteria impairment is recorded as a 2.52 mile 1998 303(d) Listing for fecal coliform (FC) bacteria based on a 319 funded special study (SS 925102) and ambient sample collections. Actual listing occurred with the 2002 Assessment Cycle. Abundant fecal coliform bacteria counts failed to support the recreational use by exceedences of both the geometric mean (200 n/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AMHA000.01 (Off Rt. 687 at confluence/w Maggodee) There are no additional data beyond the 2004/2006 data window where E.coli exceedences of the 235 cfu/100 ml instantaneous criterion are found in 10 of 16 samples. The range of excursions is 370 cfu/100 ml to greater than 2000. E.coli observations within the 2008 data window find three of six E.coli excursions of the instantaneous criterion.

Mollie Branch

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

2.52

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

*Appendix A - List of Impaired (Category 5) Waters in 2008**

Roanoke and Yadkin River Basins

Cause Group Code **L10R-01-BAC**

Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)

Location: Blackwater River from the Rt. 122 Bridge Crossing on downstream into Smith Mountain Lake (Redwood Quad). Downstream ending at 37°03'03" / 79°43'49" located ~1.7 miles upstream of the 4H Camp. And Foul Ground Creek from its headwaters (37°01'45" / 79°47'28") downstream to its inundation on the Blackwater River in Smith Mountain Lake (37°03'03" / 79°45'26").

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

The Bacteria Total Maximum Daily Load (TMDL) Studies are complete for the Upper, Middle and Lower Blackwater River drainages. These studies incorporate tributary streams that lie within the boundaries of VAW-L08R, L09R, L10R and L11R. This Fact sheet addresses the Lower Blackwater River drainage.

TMDL Study approvals from the US Environmental Protection Agency (EPA) were obtained on 03/09/2001 for the Upper Blackwater River [Fed. ID 1887/9634], the Middle on 12/04/2001 [Fed. ID 1887(1889)/9633] and the Lower on 04/27/2001 [Fed. ID 1888]. Each of the aforementioned TMDL Studies were approved by the SWCB on 6/17/2004. Each TMDL Study found Wildlife is a major source of bacterial contamination via TMDL Bacteria Source Tracking (BST).

The Upper Blackwater River Bacteria Implementation Plan covering Upper and Middle Blackwater River TMDL Studies is complete (8/23/2001) and SWCB approved on 6/17/2004. The Lower Blackwater River Bacteria Implementation Plan is complete with SWCB approval on 9/27/2006. The Upper Blackwater River Bacteria Implementation Plan encompasses the Upper Blackwater River (L08R), the North and South Forks, Little and Teels Creeks. The Lower Blackwater River Bacteria Implementation Plan encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggodee (L09R) and Gills Creeks (L11R). The entirety of the approved studies with allocations and Implementation Plans can be viewed at <http://www.deq.virginia.gov>.

Blackwater River:

The Blackwater River Impairment is originally based on a 319 funded special study (SS 925102) data and ambient fecal coliform (FC) bacteria sample collections. The impaired waters, initially 303(d) Listed in 1996, found abundant fecal coliform (FC) bacteria counts failed to support the recreational use by exceedences of both the existing geometric mean (200 cfu/100 ml) and former (2002) instantaneous criterion of 1000 cfu/100 ml. The Blackwater River mainstem bacteria impaired miles total 39.50 (See L08R-04-BAC Fact Sheet). Escherichia coli (E.coli) has replaced fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Lower Blackwater River (11.29 miles):

4ABWR032.32- (Rt. 122 Bridge at the stream gaging station) There are no additional data beyond the 2006 Integrated Report (IR). This station will no longer be sampled due to safety concerns. The 2006 IR reports E.coli exceed the 235 cfu/100 ml instantaneous criterion in six of 21 samples ranging from 490 to greater than 800 cfu/100 ml. E.coli samples within the 2008 data window find one of 10 in excess of the instantaneous criterion.

4ABWR019.75- (Rt. 834 Bridge or Brooks Mill Bridge) E.coli exceeds the instantaneous criterion of 235 cfu/100 ml in four of 21 samples. The exceeding range is from 420 cfu/100 ml to greater than 2000. 2006 results are exceedences of the instantaneous criterion in two of nine samples. The exceeding values are 420 and 620 cfu/100 ml.

Foul Ground Creek (4.04 miles):

A 2004 addition to the original bacteria impairment is a 4.04 mile section on Foul Ground Creek. [Fed. ID 1888]. The impairment begins at the confluence of the Foul Ground Creek headwaters (37°01'45" / 79°47'28") and extends downstream to its inundation on the Blackwater River in Smith Mountain Lake (37°03'03" / 79°45'26").

4AFGC002.52- (Rt. 834 Bridge) There are no additional data beyond the 2004 IR where five of 11 FC samples exceed the 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 cfu/100 ml to greater than 8000. FC results produce no exceedences from two samples within the 2008 data window.

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		525.03	11.29
Blackwater River (Lower), Foul Ground Creek and Smith Mountain Lake (Blackwater Riverine)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			4.04

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L10R-01-BEN** **Blackwater River**

Location: Blackwater River mainstem from downstream of the Rt. 921 Bridge ~ 1.3 miles at the confluence of an unnamed tributary (L08R) downstream to the backwaters of Smith Mountain Lake (L10R) at the 795 ft pool elevation.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 14.26 mile benthic impairment is a 2008 303(d) Listing.

4ABWR029.51- (Downstream of Rt. 122 Bridge) Bio 'IM' Two 2004 Virginia Stream Condition Index (VSCI) surveys scoring 60.7 spring and 50.1 fall. The average VSCI score is 55.4. Habitat impacts include excessive sediment deposition. Water quality in this reach is affected by NPS pollution.

Blackwater River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			14.26

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Wet Weather Discharges (Non-Point Source)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L11R-01-BAC**

Gills Creek

Location: Gills Creek mainstem from west of the Rt. 684 Bridge in Franklin County (Garden City Quad) on downstream into the inundated Gills Creek backwaters of Smith Mountain Lake near the end of Rt. 665. (Moneta S.W. Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

The Gills Creek Bacteria Total Maximum Daily Load (TMDL) Study received US Environmental Protection Agency (EPA) approval on 5/31/2002 [Fed ID: 9472 / 18765] and SWCB approval on 6/17/2004 (formerly VAW-L11R-01). The TMDL Study incorporates tributary streams that lie within the boundaries of watershed VAW-L11R. The Lower Blackwater River Bacteria Implementation Plan is complete and approved by the SWCB on 9/27/2006. The Lower Blackwater River Bacteria Implementation Plan encompasses the lower Blackwater River (L10R) including the backwaters of Smith Mtn. Lake (L12L), Maggoodee (L09R) and Gills (L11R) Creeks. The entirety of the approved study with allocations can be viewed at <http://www.deq.virginia.gov>.

The bacteria impairment is a 1996 303(d) Listing based on a 319 funded special study (SS 925102) and ambient sample collections. Abundant fecal coliform (FC) bacteria counts failed to support the recreational use by exceedences of both the geometric mean (200 cfu/100 ml) and the former (2002) instantaneous criterion (1000 cfu/100 ml). Escherichia coli (E.coli) now replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The Recreational Use impairment remains for 19.31 miles and 197.42 acres in the backwaters of Smith Mountain Lake.

4AGIL023.22- (Rt. 657 Bridge) There are no additional data beyond the 2006 Integrated Report (IR) where three of 20 FC observations exceed the 400 cfu/100 ml instantaneous criterion. The exceeding values range from 500 cfu/100 ml to greater than 8000. The 2004 IR records six of 27 fecal coliform bacteria sample counts exceed.

4AGIL008.30- (Rt. 834 Bridge near Booker T. Washington National Park) There are no additional data beyond the 2006 IR where eight of 18 E.coli samples exceed the instantaneous criterion of 235 cfu/100 ml. Exceeding values range from 250 cfu/100 ml to greater than 800. E.coli results within the 2008 data window find one of six samples in excess of the criterion.

Gills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		197.42	8.60
Gills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			10.71

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L11R-01-BEN** **North Fork Gills Creek, UT (XML)**

Location: North Fork Gills Creek, UT (XML) from its mouth on Gills Creek upstream to its headwaters.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AXML000.56- (Off of Rt. 684 near Red Valley) Bio 'IM' Two Virginia Stream Condition Index (VSCI) surveys find impairment at this site where the average score is 23.3 (spring 17.5 / fall 29.0). This stream has a small watershed (<1.0 sq. mi) which is dominated by agricultural land. The stream channel is impacted by heavy deposits of fine sediment and many areas of eroded stream bank. One side of the stream has a good riparian buffer while the other side is impacted by a pasture.

North Fork Gills Creek, UT (XML)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.39

Sources:

Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Wet Weather Discharges (Non-Point Source)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L12L-01-PCB**

Roanoke River, Blackwater River, Smith Mountain Lake, Tinker Creek and Peters Creek.

Location: Roanoke River from the confluence of the North and South Forks downstream to Smith Mtn. Dam. Blackwater River from the Rt. 122 crossing downstream to its confluence with the Roanoke River in Smith Mtn. Lake. Peters Creek from the Rt. 460 Bridge downstream to its confluence on the Roanoke River. Tinker Creek from the mouth of Deer Branch downstream to the Tinker Creek confluence on the Roanoke River.

City / County: Bedford Co.
Roanoke City

Botetourt Co.
Roanoke Co.

Franklin Co.
Salem City

Montgomery Co.

Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

The waters of the Roanoke River (31.74 miles), Blackwater River (11.29 miles), Peters Creek (2.52 miles), Tinker Creek (5.33 miles) and Smith Mountain Lake (19,789.92 acres) are under a Virginia Department of Health (VDH) Fish Consumption Advisory for Polychlorinated Biphenols (PCB) issued 7/27/05. The VDH Advisory is based on fish tissue found to contain greater than 50 ppb of PCBs. The previous advisory (issued 10/20/03) recommended that no more than two eight-ounce meals per month of flathead catfish (less than 32 inches in size), striped bass, gizzard shad, redhorse sucker, largemouth bass and carp should be consumed. Per the previous advisory, flathead catfish (greater than 32 inches in size) should not be eaten. The advisory has been updated to also recommend that no more than two eight-ounce meals per month of channel catfish should be consumed.

There are 10 fish tissue collection sites within the 2008 data window reporting exceedences of the DEQ WQS 54 ppb fish tissue value (TV). These data are reviewed by the VDH in making an advisory determination. A complete listing of collection sites and associated fish tissue data are available at <http://www.deq.virginia.gov/fishtissue/fishtissue.html>. A more detailed presentation of the data can also be found using an interactive mapping application at <http://gisweb.deq.state.va.us/>. The VDH Advisory information is also available via the web at <http://www.vdh.virginia.gov/Epidemiology/PublicHealthToxicology/Advisories/>.

Roanoke River, Blackwater River, Smith Mountain Lake, Tinker Creek and Peters Creek.

Fish Consumption

PCB in Fish Tissue - Total Impaired Size by Water Type:

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

19,789.92

50.88

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L12L-05-BAC** **Smith Mountain Lake - Crazy Horse Camp Ground**

Location: Crazy Horse Camp Ground Beach and Marina area.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Crazy Horse Camp Ground and Marina is located on an unnamed tributary to the Blackwater River. The VDH issued a beach closure at the facility for one week each in June and July 2000 noting a recurrence of bacterial contamination is likely. The facility is located off Route 601 at 37°04'04" / 79°38'54" on the Moneta SW Quad. This is a 2004 Listing (formerly VAW-L12LR-05).

Smith Mountain Lake - Crazy Horse Camp Ground	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		30.27	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L13L-02-BAC** **Leesville Lake**

Location: Leesville Lake from its confluence with Old Womans Creek to its backwaters

City / County: Bedford Co. Campbell Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A Escherichia coli / 5A

Station ID: 4AROA145.34 2/11 violation rate for e coli & 3/12 violation rate for e coli

Leesville Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2,080.12

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Source Unknown	Unspecified Domestic Waste
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L13L-02-DO** **Leesville Lake**

Location: Leesville Lake from its impounding structure to its backwaters including the Old Womans Creek portion

City / County: Bedford Co. Campbell Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID:
4AROA140.66 Dissolved Oxygen - 36/200 Violation Rate
Fully Supporting Nutrient Assessment
Chlorophyll a - 0/3 Samples (90% Calculated over 3 Sample Yrs)
No Total Phos assessed since lake is not treated with algaecides

4AROA145.34 Dissolved Oxygen - 7/143 Violation Rate
Fully Supporting Nutrient Assessment
Chlorophyll a - 0/3 Samples (90% Calculated over 3 Sample Yrs)
No Total Phos assessed since lake is not treated with algaecides

Transitional Zone Stations:
4AROA153.59 Dissolved Oxygen - 0/51 Violation Rate

Pooled Data:
Dissolved Oxygen - 43/394
pH - 0/109

Leesville Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		2,629.56	

Sources:
Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L13R-01-BAC** **Old Womans Creek**

Location: Old Womans Creek from its headwaters to its mouth on Leesville Lake

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

Station ID: 4AOWC002.35 5/12 violation rate for e coli & 4AOWC005.36 5/12 violation rate for e coli

Old Womans Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.85

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L14R-01-BAC** **Pigg River and Doe Run**

Location: Pigg River from the mouth of the South Prong Pigg River on the Pigg River on downstream of the Rocky Mount STP to an unnamed tributary to the Pigg River upstream of the community of Gladehill. Doe Run mainstem from its mouth on the Pigg River upstream to its headwaters. (Rocky Mount & Gladehill Quads).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 5A

The Pigg River Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 and SWCB approved on 6/27/2007. The Doe Run bacteria impairment is not specifically addressed by the TMDL Study due to the listing occurring after initial study contractual design. However allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment.

The 2004 Integrated Report (IR) extended the 1996 Pigg River bacteria 303(d) Listing upstream from the confluence of Storey Creek on the Pigg River continuing on upstream to the mouth of the South Prong Pigg River. The extension is due to sample collections in support of the Bacteria TMDL Study. This fact sheet describes the upper 35.0 mile impaired portion that includes the 2004 addition of 13.37 miles to the original 1996 impaired miles (21.63) on the Pigg River. Doe Run is a 2006 addition (5.42 miles). The Lower portion described in a separate fact sheet (L18R-01-BAC) comprises 28.89 miles. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ADOE002.47- (Rt. 720 Bridge) There are no additional data beyond the 2006 IR where FC exceeds the 400 cfu/100 ml instantaneous criterion in three of 12 samples. Exceedences range from 800 to 2100 cfu/100 ml.

4APGG074.87- (Rt. 908 Ford) The 2008 range of exceeding E.coli samples is from 250 to greater than 2000 cfu/100 ml where five of 12 observations exceed the 235 cfu/100 ml instantaneous criterion. 2006 results are four of nine observations in excess of the E.coli criterion and the same range of exceedence as in 2008.

4APGG068.49- (Rt. 756 Bridge) Eight of 12 E.coli samples exceed the instantaneous criterion in 2008. The range of exceedence is from 254 to 820 cfu/100 ml. E.coli exceeds the criterion in four of six samples in 2006 ranging from 300 to 610 cfu/100 ml.

4APGG052.73- (Rt. 713 Bridge) 2008 E.coli exceedences range from 480 to greater than 2000 cfu/100 ml where 16 of 26 samples exceed the 235 cfu/100 ml instantaneous criterion. 2006 E.coli exceedences range from 480 to greater than 2000 cfu/100 ml where eight of 11 samples exceed the criterion.

Pigg River and Doe Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			35.00
Pigg River and Doe Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			5.41

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Residential Districts
Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl	

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L14R-02-BAC**

Storey Creek

Location: The Storey Creek upper limit is west of Ferrum near the intersection of Rt. 40 and Rt. 748, perennial headwaters (Ferrum Quad). The downstream limit is the mouth of Storey Creek on the Pigg River (Rocky Mount Quad).

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Storey Creek Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 [FED ID 30412]. The 1996 Storey Creek 11.60 mile bacteria study received approval from the SWCB on 6/27/2007. Additional stations are added along Storey Creek in support of the Bacteria TMDL Study.

Four stations on Storey Creek find the recreational use impaired due to exceedence of the fecal coliform (FC) bacteria 400 cfu/100 ml instantaneous criterion and the Escherichia coli instantaneous criterion of 235 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ASDA009.79- (Rt. 623 above Ferrum STP) E.coli exceeds the 235 cfu/100 ml instantaneous criterion in five of 12 samples ranging from 250 to greater than 2000 cfu/100 ml. The 2006 Integrated Report (IR) finds E.coli exceeds the criterion in three of nine samples with the same range of exceedence.

4ASDA009.77- (off Rt. 864 below Ferrum STP) There are no additional data beyond the 2004 IR. FC exceeds the criterion in 13 of 37 samples. Exceeding values range from 500 cfu/100 ml to greater than 8000. There are no FC excursions found within the 2008 data window from five samples.

4ASDA007.24- (Rt. 40 Bridge) Two of six E.coli samples exceed the instantaneous criterion at 250 cfu/100 ml and 1000. Station added in support of the Bacteria TMDL Study.

4ASDA000.67- (Davis Mill Bridge - Rt. 754) Seven of 12 E.coli samples exceed the instantaneous criterion ranging from 255 to 1000 cfu/100 ml in 2008. Four of six E.coli samples exceed the criterion ranging from 310 to 1000 cfu/100 ml in 2006. Station added in support of the Bacteria TMDL Study.

Storey Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

11.60

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L15R-01-BAC** **Big Chestnut Creek**

Location: Big Chestnut Creek from the confluence of Little Chestnut Creek downstream to its confluence with the Pigg River.

City / County: Franklin Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The Pigg River Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 [FED ID 30414] and SWCB approved 6/27/2007. Big Chestnut Creek is a 2004 bacteria 303(d) Listing.

The Big Chestnut Creek 12.87 mile bacteria impairment is not specifically addressed by the TMDL Study due to the 303(d) Listing occurring after initial study contractual design and therefore Category 5A. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Big Chestnut Creek. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ACNT001.32- (Rt. 715 Bridge) E.coli sample results report six exceeding values ranging from 250 to greater than 2000 cfu/100 ml from 12 samples. All in excess of the 235 cfu/100 ml instantaneous criterion. 2006 E.coli sample results report six exceeding values with the same range of exceedence.

Big Chestnut Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

12.87

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L17R-01-BAC**

Snow Creek and Turkeycock Creek

Location: Snow Creek from the Ditto Branch confluence downstream to its mouth on the Pigg River (Penhook & Sandy Level Quads).
Turkeycock Creek from its mouth on Snow Creek upstream to the confluence of Sailor Creek.

City / County: Franklin Co.

Pittsylvania Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

The Snow Creek Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 [FED ID 30410] and SWCB approved 6/27/2007. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment.

The 1999 Federal Consent Decree includes 4ASNW000.60 as an Attachment B station. The initial 303(d) fecal coliform (FC) bacteria Listing in 2002 of Snow Creek is in response to the 1999 Consent Decree resulting in a 2010 TMDL Schedule. The 2002 assessment reports five of 22 samples in excess of the former (2002) 1000 cfu/100 ml instantaneous criterion. An exceedence rate of 22 percent. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The 10.99 mile bacteria impairment remains- Category 4A. Turkeycock Creek adds an additional 6.32 miles and is Category 5A as the TMDL does not specifically address this drainage.

4ASNW000.60- (Kirby Ford Bridge) 2008 results find E.coli exceed the 235 cfu/100 ml instantaneous criterion in eight of 18 samples ranging from 290 to 1600 cfu/100 ml. The 2006 Integrated Report (IR) range of exceedence is from 480 to 880 cfu/100 ml from five of 12 samples.

4ATCC003.71-(Danville Turnpike near Sago, Rt. 969) Two of six E.coli samples exceed the instantaneous criterion at 250 and 680 cfu/100 ml. Turkeycock Creek is a 6.35 mile 2008 addition to the original 2002 Snow Creek 303(d) Listing.

Snow Creek and Turkeycock Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

17.31

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L17R-01-BEN** **Poplar Branch**

Location: Poplar Branch headwaters downstream to its confluence with Snow Creek.

City / County: Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired for 2.51 miles with the 2008 303(d) Listing of these waters.

4APAA000.24- Bio 'IM' Two Virginia Stream Condition Index (VSCI) surveys scoring spring 54.0 and fall 55.5. The immediate land use at this station is forested with a closed canopy and excellent riparian vegetation. However, the watershed upstream from this station has pasture land with many small ponds that appear to reduce stream flow and subsequently allows fine sediment to accumulate in the stream.

Poplar Branch	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.51

Sources:

Sediment Resuspension (Clean Sediment)	Wet Weather Discharges (Non-Point Source)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L18R-01-BAC** **Pigg River**

Location: Pigg River from the mouth of Big Chestnut Creek (RM 32.99) downstream to the backwaters of Leesville Lake (RM 3.29) (Penhook & Sandy Level Quads).

Note: These impaired waters now incorporate the former State TMDL ID of VAW-L16R-01 (15.54 miles) initially listed in 2002. The former VAW-L13L-02 (Bacteria 157.24 acres) impairment is described in the Cause Group Code L13L-02-BAC Leesville Lake Fact Sheet.

City / County: Franklin Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Pigg River Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 [FED ID 30414] and SWCB approved 6/27/2007. This Fact Sheet addresses the lower riverine portion of the Pigg River 28.89 mile bacteria impairment. The Pigg River bacteria 2002 15.53 mile impairment extension from the original 1998 13.36 mile 303(d) Listing is the result of additional ambient and TMDL support sampling. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. A separate fact sheet (L14R-01-BAC) describes the Upper Pigg River 35.0 mile bacteria impairment.

4APGG030.62- (Rt. 646, Fralin Bridge) Nine of 21 E.coli samples exceed the 235 cfu/100 ml criterion in 2008. Values in excess of the criterion range from 260 to 930 cfu/100 ml. Four of six E.coli samples exceed the criterion in 2006 with the same range of exceedence.

4APGG016.06- (Rt. 626 Bridge) 2008 E.coli exceedences of the instantaneous criterion range from 300 to greater than 2000 cfu/100 ml in nine of 21 samples. 2006 reports E.coli exceeds the instantaneous criterion in five of nine samples ranging from 400 to greater than 2000 cfu/100 ml.

4APGG008.87- (Off Rt. 40 at USGS Gage) 2008 E.coli exceed the instantaneous criterion nine of 21 samples ranging from 280 to 1900 cfu/100 ml. 2006 E.coli exceedences range from 500 to greater than 800 cfu/100 ml in five of nine samples.

4APGG003.29- (Rt. 605 Bridge) E.coli exceed the instantaneous criterion in nine of 27 samples ranging from 300 to 1200 cfu/100 ml in 2008. Five of 12 E.coli samples exceed in 2006 with an exceedence range of 300 to 860 cfu/100 ml.

Pigg River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			28.89

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L18R-01-BEN** **Fryingpan Creek**

Location: Headwaters of Fryingpan Creek downstream ~0.85 miles of the Rt. 40 crossing (36°57'30" / 79°26'54").

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The waters of Fryingpan Creek are impaired for the Aquatic Life use due to contravention of the WQS General Standard (Benthic). The 2006 303(d) 2.55 mile Listing is a result of benthic impairments found at station 4AFRY006.08 where two 2003 Virginia Stream Condition Index (VSCI) scores are spring 42.4 and fall 32.8. The stream has a small watershed (5.2 mi2) which is approximately 46% agricultural land. The stream channel is impacted by deposits of fine sediment and some areas of eroded stream bank. Both sides of the stream are protected by a good riparian buffer. The benthic community has low diversity of pollution sensitive families and is dominated by those tolerant of excessive sediment.

Fryingpan Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.55

Sources:

Livestock (Grazing or Feeding Operations)	Sediment Resuspension (Clean Sediment)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L18R-02-BAC** **Harpen Creek**

Location: Harpen Creek from its mouth on the Pigg River upstream to near Climax (36°53'28" / 79°30'30").

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Pigg River Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 [FED ID 30414] and SWCB approved 6/27/2007. Harpen Creek is a 2006 bacteria 303(d) Listing.

The Harpen Creek 5.28 mile bacteria impairment is not specifically addressed by the TMDL Study due to the 303(d) Listing occurring after initial study contractual design and therefore Category 5A. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Harpen Creek. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AHPN001.62- (Rt. 785 Bridge) E.coli exceed in 13 of 21 samples in 2008 in excess of the 235 cfu/100 ml instantaneous criterion. The range of exceedence is 450 to greater than 2000 cfu/100 ml. 2006 Integrated Report (IR) results find E.coli exceeds in four of nine samples with the same range of exceedence.

Harpen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.28

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L18R-03-BAC** Tomahawk Creek

Location: Tomahawk Creek from its mouth on the Pigg River upstream to above Andersons Mill (36°52'28" / 79°32'15").

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The Pigg River Bacteria TMDL Study is complete and US EPA approved on 9/11/2006 [FED ID 30414] and SWCB approved 6/27/2007. The Study encompasses the Pigg River drainage, Old Womans Creek, Snow Creek, Storey Creek and Leesville Lake. Tomahawk Creek is a 2006 bacteria 303(d) Listing.

The Tomahawk Creek bacteria impairment is not specifically addressed by the TMDL Study due to the listing occurring after initial TMDL Study contractual design and therefore Category 5A. However allocation scenario development is for the entire Pigg River drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment including Tomahawk Creek. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ATMA001.62- Three of nine FC samples exceed the 400 cfu/100 ml instantaneous criterion ranging from 490 to greater than 5200 cfu/100 ml. E.coli exceed in two of nine samples in excess of the 235 cfu/100 ml criterion. The range of exceedence is 680 to greater than 800 cfu/100 ml.

Tomahawk Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

4.39

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L19R-01-BAC** **Roanoke (Staunton) River**

Location: Roanoke (Staunton) River from the former Dan River, Inc. discharge to the backwaters of Kerr Reservoir.

City / County: Campbell Co. Charlotte Co. Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

Station ID: 4AROA097.46 4/33 violation rate for e coli
4AROA067.91 7/32 violation rate for e coli
4AROA059.12 6/33 violation rate for e coli

Roanoke (Staunton) River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			46.99

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L19R-01-HG**

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

Location: Roanoke (Staunton) River from Leesville Dam to the John H. Kerr Dam including Kerr Reservoir, its tributaries Eastland Creek and Nutbush Creek (within the state of Virginia) and Cub Creek from its mouth to the crossing of Rough Creek Road near Rough Creek.

City / County: Campbell Co.

Charlotte Co.

Halifax Co.

Mecklenburg Co.

Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Station IDs:

Near Route 29 - Altavista

4AROA129.55 (2006 FT/Sediment) - 2 species exceed VDH level of concern

Near Brookneal

4AROA097.07 (2006 FT/Sediment) - 1 species exceeded VDH level of concern

Near Route 746 - Randolph

4AROA067.91 (2006 FT/Sediment) - 1 species exceeded VDH level of concern

Near Route 360 - Clover

4AROA059.12 (2006 FT/Sediment) - 4 species exceed VDH level of concern

Near Clarksville

4AROA036.59 (2006 FT/Sediment) - 1 species exceeded VDH level of concern

Kerr Reservoir near Ivy Hill

4AROA028.04 (2006 FT/Sediment) - 2 species exceed VDH level of concern

Lake Gaston near State Line

4AROA004.54 (2006 FT/Sediment) - 1 species exceeded VDH level of concern

Cub Creek near Route 40 Gaging Station

4ACUB010.96 (2006 FT/Sediment) - 1 species exceeded VDH level of concern

VDH Fish Advisory - Issued 8/31/07

Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek.

VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.

Eat fewer or smaller servings of fish.

Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).

Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:

Remove the skin, the fat from the belly and top and internal organs before cooking the fish.

Bake, broil or grill on an open rack to allow fats to drain away from the meat.

Discard the fats that cook out of the fish.

Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.

Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.

For more information about fish consumption advisories, including frequently asked questions go to www.vdh.virginia.gov.

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Mercury in Fish Tissue - Total Impaired Size by Water Type:

31,644.41

102.39

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L19R-01-PCB**

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

Location: Roanoke (Staunton) River from Leesville Dam to the John H. Kerr Dam including Kerr Reservoir, its tributaries Eastland Creek and Nutbush Creek (within the state of Virginia) and Cub Creek from its mouth to the crossing of Rough Creek Road near Rough Creek.

City / County: Campbell Co.

Charlotte Co.

Halifax Co.

Mecklenburg Co.

Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

Station IDs:

Near Route 29 - Altavista

4AROA129.55 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Near Long Island

4AROA108.09 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Near Brookneal

4AROA097.07 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

Near Route 746 - Randolph

4AROA067.91 (2006 FT/Sediment) - 2 species exceed VDH upper level of concern

Near Route 360 - Clover

4AROA059.12 (2006 FT/Sediment) - 2 species exceed VDH upper level of concern

Near Clarksville

4AROA036.59 (2006 FT/Sediment) - 2 species exceeded VDH lower level of concern

Kerr Reservoir near Ivy Hill

4AROA028.04 (2006 FT/Sediment) - 2 species exceed VDH lower level of concern

Lake Gaston near State Line

4AROA004.54 (2006 FT/Sediment) - 1 species exceeded VDH lower level of concern

Cub Creek near Route 40 Gaging Station

4ACUB010.96 (2006 FT/Sediment) - 1 species exceeded VDH upper level of concern

VDH Fish Advisory - Issued 7/24/98, revised 8/31/07

Roanoke (Staunton) River from below Leesville Dam downstream ~ 98 miles to the confluence of Dan River including its tributary Cub Creek up to Rough Creek Road (State Route 695) near Rough Creek.

VDH recommends the following precautions to reduce any potential harmful effects from eating contaminated fish:

Eat smaller, younger fish (within the legal limits). Younger fish are less likely to contain harmful levels of contaminants than larger, older fish.

Eat fewer or smaller servings of fish.

Try to eat different species of fish from various sources (i.e., different creeks, rivers and streams).

Cleaning or cooking contaminated fish does not eliminate or reduce mercury. However, levels of PCBs in fish can be reduced by taking the following precautions:

Remove the skin, the fat from the belly and top and internal organs before cooking the fish.

Bake, broil or grill on an open rack to allow fats to drain away from the meat.

Discard the fats that cook out of the fish.

Avoid or reduce the amount of fish drippings or broth that is used to flavor the meal.

Eat less deep-fried fish, since frying seals contaminants into the fatty tissue.

For more information about fish consumption advisories, including frequently asked questions go to www.vdh.virginia.gov.

Roanoke (Staunton) River, Cub Creek, Kerr Reservoir

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

PCB in Fish Tissue - Total Impaired Size by Water Type:

31,644.41

102.39

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L19R-02-BAC** **Lynch Creek**

Location: Lynch Creek from its headwaters to the Bus Route 29 crossing

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALYH000.50 4/8 violation rate for e coli

Lynch Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.46

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L20R-01-BAC** **Goose Creek**

Location: The impairment begins at the confluence of the North and South Forks of Goose Creek extending downstream to the mouth of Bore Auger Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Escherichia coli (E.coli) replaces the 2004 6.78 mile fecal coliform (FC) bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AGSE037.78- (Rt. 755 Bridge) 2008 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in eight of 12 samples. Exceeding values range from 280 to 930 cfu/100 ml. The 2006 Integrated Report (IR) records E.coli exceedences of the instantaneous criterion in seven of nine samples with the same range of exceedence as in 2008.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.78

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Residential Districts	Unspecified Domestic Waste
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L21R-01-BAC** **Goose Creek**

Location: Goose Creek from the mouth of Rocky Branch downstream to the confluence of Stony Fork Creek.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The 1999 Federal Consent Decree includes 4AGSE022.55 as an Attachment B station for fecal coliform bacteria. The station was not 2002 303(d) listed as the 2002 exceedence rate is 8 percent where two of 23 analyses exceed the former 1000 cfu/100 ml instantaneous criterion. The 2004 fecal coliform (FC) bacteria assessment results in 303(d) Listing finding nonsupport based on the 400 cfu/100 ml instantaneous criterion in 2004. Escherichia coli (E.coli) replaces the 2004 7.26 mile fecal coliform bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AGSE025.64- E.coli exceed the 235 cfu/100 ml criterion in three of nine samples ranging from 250 to 700 cfu/100 ml.

4AGSE022.55- There are no additional data beyond the 2004 IR. 2004 Integrated Report (IR) records FC exceeds the 400 cfu/100 ml instantaneous criterion in two of 18 samples. The exceeding values are 800 and 3100 cfu/100 ml. 2008 IR finds one of three FC samples exceeding the instantaneous criterion.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.26

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L21R-02-BAC** **Wolf Creek**

Location: Wolf Creek from its headwaters downstream to the Wolf Creek confluence on Goose Creek

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreation Use is impaired for 6.82 miles in this 2008 initial 303(d) Listing due to exceedences for escherichia coli (E.coli) bacteria. E.coli replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AWLF000.09- (Rt. 691 Bridge at Joppa Mill) E.coli exceed the 235 cfu/100 ml criterion in three of nine samples. E.coli exceedences range from 320 to 1400 cfu/100 ml.

Wolf Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			6.82

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L22R-01-BAC** **Goose Creek**

Location: The upstream limit is at the Rt. 626 bridge crossing Crab Orchard Creek. The downstream limit is Goose Creek's mouth on the Roanoke River (Huddleston and Leesville Quads).

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

The waters remain impaired for 10.03 miles for failure to support the Recreational Use. Escherichia coli (E.coli) will replace the 2002 fecal coliform (FC) bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AGSE000.20 (Rt. 630 Bridge) There are no additional data beyond the 2004 Integrated Report (IR). 2004 IR reports three of 18 FC samples exceed the 400 cfu/100 ml instantaneous criterion. Exceeding values are 1100, 2700 and 6700 cfu/100 ml. There are no E.coli data to assess in 2008. 2008 FC results find no excursions from three samples. The 2006 IR finds two of nine FC samples exceed the instantaneous criterion.

Goose Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

10.03

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L23R-01-BAC**

Big Otter River and Sheeps Creek

Location: The impairment begins on Sheeps Creek form just north of Reba, Va on Campbells Mountain off Rt. 614 (Montvale Quad) downstream to the confluence of Stony Creek forming the Big Otter River (Peaks of Otter Quad 37°23'25" /79°33'21"). The impairment continues downstream on the Big Otter River from the mouth of Sheeps Creek to the confluence of North Otter Creek.

Note: The original downstream end was ~0.25 miles west of the Rt. 43 Bridge where Sheeps Creek and Stoney Creek join to form the Big Otter River, 1996 (Peaks of Otter Quad 37°23'25" /79°33'21"). The 2004 ending of the impairment is at the mouth of North Otter Creek on the Big Otter River.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

The Big Otter River / Sheeps Creek Bacteria Total Maximum Daily Load (TMDL) Study is complete receiving US EPA approval on 2/02/2001 FED ID 1650 / 7798. The SWCB approved the TMDL Study 6/17/2004 (formerly VAW-L23R-01) and the Bacteria Implementation Plan on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26) including Machine Creek (L26), Big Otter drainage (L23, L24, L27, L28- delisted 2008 13.98 mi.) including Sheeps (L23), North Otter (L24) and Elk (L25) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. The entirety of the approved study and allocations can be viewed at <http://www.deq.virginia.gov>.

The original Sheeps Creek 303(d) Listing for fecal coliform (FC) bacteria in 1996 and again in 1998 (7.91 miles) is based on ambient data collections showing contravention of the former 1000 cfu/100 ml fecal coliform bacteria standard in greater than 25 percent of the samples collected. The waters remain impaired for the recreational use and is expanded to include the Big Otter River. The 2004 expansion adds an additional 9.47 miles to the impaired waters listing to include the Big Otter River from river mile 41.48 downstream to 32.01. Escherichia coli (E.coli) replaces fecal coliform bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Sheeps Creek (7.91 miles)

4ASEE003.16- (Rt. 680 Bridge) There are no E.coli data to assess. The bacteria impairment remains in 2008 from four of 14 FC samples exceeding the 400 cfu/100 ml instantaneous criterion. The range of exceeding values is from 500 to 900 cfu/100 ml. FC exceeds the instantaneous criterion in eight of 24 samples within the 2006 data window with the range of exceedence from 450 cfu/100 ml to 1500. The 2004 Integrated Report (IR) finds 10 of 27 observations exceed the instantaneous criterion. The 2004 exceedence range is from 500 cfu/100 ml to greater than 8000.

Big Otter River (9.47 miles)

4ABOR034.32- (Rt. 644 Bridge) E.coli exceed the 235 cfu/100 ml criterion in four of 11 samples ranging from 280 to 1000 cfu/100 ml. E.coli exceed the criterion in four of eight samples in 2006 with the same range of exceedence as 2008.

Big Otter River and Sheeps Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

9.47

Big Otter River and Sheeps Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

7.91

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L25R-01-BAC**

Big Otter River, Elk Creek and North Otter Creek

Location: Big Otter River from the mouth of North Otter Creek downstream to the confluence of the Little Otter River. Elk Creek from the Rt. 644 crossing at Perrowville downstream to the Elk Creek confluence on the Big Otter River. North Otter Creek from near the Rt. 122 crossing downstream to the its mouth on the Big Otter River.

Note: The original 1998 bacteria 7.28 mile impairment on Elk Creek is extended with the 2004 IR to include the lower portion of North Otter Creek and the Big Otter River.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

The Big Otter River / Elk Creek Bacteria Total Maximum Daily Load (TMDL) Study is complete receiving US EPA approval on 2/02/2001 [Fed. ID 1498/9595] and SWCB approval on 6/17/2004 (formerly VAW-L25R-01). The Bacteria Implementation Plan received SWCB approval on 3/27/2007. The waters are therefore Category 4A for bacteria. The Bacteria TMDL Study encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R-mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The entirety of the approved study and allocations can be viewed at <http://www.deq.virginia.gov>.

The 2004 extension is the result of additional data collections made while conducting the TMDL Study. The bacteria impairment encompasses the original Elk Creek 7.28 miles and the total 2004 extension of 30.10 miles. The original 1998 and 2004 extensions totaling 37.38 miles are described below:

The 1998 Elk Creek (L25R) original 7.27 mile bacteria upper limit is at Rt. 622 west of Forest (Forest Quad 37°20'25" / 79°21'33") and ending at its mouth on the Big Otter River (Goode Quad 37°18'37" / 79°23'38"). The 2004 extension runs from near Perrowville (37°24'58" / 79°21'07") downstream to the Rt. 622 crossing adding 11.86 miles. The original 1998 and 2002 303(d) Listing basis is for fecal coliform bacteria exceedences at 4AECR003.02. These data show contravention of the former WQS 1000 cfu/100 ml fecal coliform criterion in greater than 25 percent of the samples collected.

Elk Creek (19.13 miles)

4AECR016.66- (Below Rt. 664 near Norwood) Six of nine E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The exceedence range is from 320 to 1600 cfu/100 ml.

4AECR007.42- (intersection of Routes 643 and 705) E.coli exceedences are found in six of nine samples with a range of exceedence from 320 cfu/100 ml to greater than 2000. Each in excess of the instantaneous criterion.

4AECR003.02- (Rt. 668 Bridge) Six of nine E.coli samples exceed the instantaneous criterion. The exceeding values range from 300 to greater than 2000 cfu/100 ml.

The 2004 North Otter Creek (L24R) extension is 6.55 miles. The extension includes the lower portion of North Otter Creek on the Sedalia Quad (37°27'12" / 79°27'55") from near the Route 122 crossing extending downstream to its mouth on the Big Otter River (Sedalia Quad (37°23'04" / 79°26'40").

4ANOT001.06- (Route 644 Bridge) There are no additional data beyond the 2006 Integrated Report (IR). Exceedences within the 2008 data window are four of 13 FC samples with the same range of exceedence as in 2006. The 2006 IR reports seven of 20 FC samples exceed the 400 cfu/100 ml instantaneous criterion. The range of exceedence is from 700 cfu/100 ml to greater than 8000. The 2004 IR reports 10 of 28 samples in excess of the instantaneous criterion for fecal coliform bacteria. The range of exceedence is from 500 cfu/100 ml to greater than 8000.

Big Otter River (L25R; 2004 extension of 11.70 miles.)

The Big Otter River (L25R) from the confluence of North Otter Creek (Sedalia Quad 37°27'12" / 79°27'55") river mile 32.01 downstream to the confluence of Little Otter River on the Big Otter River (Goode Quad 37°16'28" / 79°24'19") river mile 20.27.

4ABOR029.74- (Rt.221 Bridge intersection Rts 221 & 670) Three of nine E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 420 cfu/100 ml and greater than 2000. Previous assessments found two

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of two FC samples exceed the 400 cfu/100 ml instantaneous criterion. Exceeding values are 2100 and 4900 cfu/100 ml.				
4ABOR024.46- (Rt. 460 Bridge near intersection Rts 460 & 706) Two of two FC samples exceed the 400 cfu/100 ml instantaneous criterion. Exceeding values are 7000 cfu/100 ml and greater than 160,000.				
Big Otter River, Elk Creek and North Otter Creek	Estuary	Reservoir	River	
Recreation	(Sq. Miles)	(Acres)	(Miles)	
Escherichia coli - Total Impaired Size by Water Type:				23.55
Big Otter River, Elk Creek and North Otter Creek	Estuary	Reservoir	River	
Recreation	(Sq. Miles)	(Acres)	(Miles)	
Fecal Coliform - Total Impaired Size by Water Type:				13.83
Sources:				
Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl	

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L26R-01-BAC**

Little Otter River and Machine Creek

Location: Little Otter River from its perennial headwaters west of Rt. 680 at Cobbs Mountain on the Peaks of Otter Quad on downstream to the mouth of the Little Otter River on the Big Otter River. Machine Creek from its perennial headwaters downstream to its confluence with the Little Otter River.

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

The Little Otter River Bacteria Total Maximum Daily Load (TMDL) Study is complete with US EPA approval on 02/02/2001 [FED ID 1547 / 9486 / 19639 / 24557] (VAW-L26R-01) and Machine Creek [FED ID 1547 / 9467 / 20210] (VAW-L26R-02). SWCB approval achieved on 6/17/2004. The SWCB approved the Bacteria Implementation Plan on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria Study encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- mainstem delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The entirety of the approved study and allocations can be viewed at <http://www.deq.virginia.gov>.

The 1996/1998/2002 303(d) Listing basis for fecal coliform bacteria are ambient collections showing contravention of the former 1000 cfu/100 ml fecal coliform criterion in greater than 10 and 25 percent of the samples collected. The Little Otter River waters remain impaired for the recreational use for 26.99 miles.

Little Otter River [FED ID 1547 / 9486 / 19639 / 24557] 26.99 miles:

4ALOR021.92- (Rt. 838 Bridge) There are no additional data beyond the 2002 Integrated Report (IR) where FC exceeds the 400 cfu/100 ml instantaneous criterion in two of two samples. Exceedences range from 3300 cfu/100 ml to greater than 160,000.

4ALOR018.96- (Rt. 122 Bridge north of the intersection of Rts 122 and 211) There are no additional data beyond the 2002 IR where two FC exceedences from two samples in excess of the instantaneous criterion. Each exceedence is 4900 cfu/100 ml and greater than 160,000.

4ALOR014.75- (Rt. 718 Bridge above Bedford STP) E.coli exceedences range from 270 to 1200 cfu/100 ml in eight of 21 samples in excess of the 235 cfu/100 ml instantaneous criterion. The 2006 assessment reports the exceedence range from 270 to 920 cfu/100 ml in four of nine samples. And 16 of 52 FC samples exceeding the FC 400 cfu/100 ml instantaneous criterion with an excursion range from 450 cfu/100 ml to greater than 8000.

4ALOR010.78- (Rt. 460 Bridge) There are no additional data beyond the 2002 IR. Two of two FC samples exceed the instantaneous criterion at 1700 cfu/100 ml and greater than 160,000.

4ALOR008.64- (Rt. 784 Bridge) FC exceedences of the instantaneous criterion are found in three of 17 samples. Exceeding values range from 500 to 2400 cfu/100 ml. FC exceedences of the 400 cfu/100 ml instantaneous criterion in 2006 are 13 of 31 samples. Exceeding values range from 500 to 28,000 cfu/100 ml.

Machine Creek [FED ID 1547 / 9467 / 20210] 11.31 miles:

4AMCR004.60- (Rt. 804 Bridge) Three of 14 FC samples exceed the 400 cfu/100 ml instantaneous criterion within the 2008 data window. Exceedences range from 500 to 1100 cfu/100 ml. The 2006 IR reports seven of 18 FC samples exceed the instantaneous criterion and the same range of exceedence.

Little Otter River and Machine Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

7.29

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Little Otter River and Machine Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			31.01

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl		

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Roanoke and Yadkin River Basins

Cause Group Code **L26R-01-BEN** Little Otter River

Location: Little Otter River mainstem from the Bedford City POTW downstream to mouth of Poorhouse Creek.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The original 2002 303(d) Listed 5.71 mile General Standard (Benthic) impairment is extended upstream in 2008 with an additional 7.29 miles showing benthic impairment at station 4ALOR014.75 for a total impaired length of 13.0 miles.

4ALOR014.75- (Rt. 718 Bridge - above Bedford STP) Bio 'IM' One fall 2006 Virginia Stream Condition Index (VSCI) survey scoring 58.7. Habitat impacts include stream substrates that are embedded by fine sediment, eroded stream banks and riparian zone vegetation removal. Application of the VSCI to previous RBP II surveys (1994-2006 outside the 2008 data window) reveals an average VSCI score of 54.0. As a result the benthic community is assessed as impaired and is a 2008 7.30 mile extension upstream from the 2002 303(d) Benthic Listing.

4ALOR014.33- (Below Bedford STP) Bio 'MI'; moderately impaired. There are no additional data beyond the 2004 IR where three RBP II surveys Fall 1999 score 45; Spring '99 and '00 average score 53.95. This station is located below the city of Bedford's STP discharge at 4ALOR014.36 (excluding the mixing zone). Best Professional Judgment was used in spring 1999 because the sample had a high number of pollution tolerant organisms. The aquatic life use General Standard (Benthic) impairment is a 2002 303(d) Listing.

Little Otter River

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

13.00

Sources:

Loss of Riparian Habitat

Municipal (Urbanized High
Density Area)

Municipal Point Source
Discharges

Sediment Resuspension
(Clean Sediment)

Streambank

Modifications/destabilization

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Roanoke and Yadkin River Basins

Cause Group Code **L26R-01-PCB** **Little Otter River**

Location: Little Otter River mainstem from the Bedford City POTW downstream to the Little Otter River confluence with the Big Otter River.

City / County: Bedford Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

1999 Fish tissue collections at 4ALOR007.94 (below Bedford) find polychlorinated biphenyls (PCBs) in excess of the human health-risk carcinogenic WQS tissue value (TV) of 54 parts per billion (ppb) from two species; Carp at 68.30 and Smallmouth Bass at 54.8 ppb. The 14.33 mile fish consumption impairment is a 2002 addition to the 303(d) Listing and remains in the 2008 Listing. A Virginia Department of Health fish consumption advisory has not been issued for these waters. 2006 and 2000 fish tissue collections find no exceedences of the WQS PCB TV of 54 ppb from species collected. However neither of these collections contained tissue results for Carp or Smallmouth Bass.

Little Otter River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			14.33

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L26R-02-BEN** **Johns Creek**

Location: Johns Creek mainstem from near its perennial headwaters in Bedford City downstream to the Johns Creek mouth on the Little Otter River (Bedford & Goode Quads).

City / County: Bedford City Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

4AJHN000.01- (near the Johns Creek confluence with the Little Otter River) One 2006 fall Virginia Stream Condition Index (VSCI) survey scoring 40.7. Bio- 'IM' This stream is affected by urban and agricultural NPS pollution. Flashy flows appear to cause severe erosion of stream banks. The 2002 2.13 mile General Standard (Benthic) 303(d) Listing remains.

Historical surveys of Johns Creek from the 1990s and 2000 also indicate an impaired benthic community. The original 2002 Benthic results show moderate impact to the benthic community from a total of three Rapid Bioassessment Protocol II (RBP II) surveys. BPJ used in spring 1999 because the number of total taxa and total individuals were low, and pollution tolerant taxa were dominant.

Johns Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.13

Sources:

Municipal (Urbanized High Sediment Resuspension
Density Area) (Clean Sediment)

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Roanoke and Yadkin River Basins

Cause Group Code **L26R-03-BEN** Wells Creek

Location: Wells Creek mainstem from its mouth on Machine Creek upstream to its headwaters.

City / County: Bedford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 assessment finds the Aquatic Life Use impaired for 3.78 miles based on results from benthic surveys at station 4AWEL000.59.

4AWEL000.59- (Downstream of Rt. 747 Crossing) Bio 'IM' Two 2005 Virginia Stream Condition Index (VSCI) surveys scoring spring 45.6 and fall 59.6. The habitat is moderately impacted by hay fields and pastures. The riparian zone buffers are narrow and there is substantial stream bank erosion. The in stream habitat is affected by deposition of fine sediment. The benthic community is dominated by organisms tolerant of nutrient and organic matter impacts.

Wells Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.78

Sources:

Loss of Riparian Habitat

Sediment Resuspension
(Clean Sediment)

Streambank
Modifications/destabilization

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Roanoke and Yadkin River Basins

Cause Group Code **L27R-01-BAC**

Big Otter River and Falling Creek

Location: Big Otter River from the mouth of the Little Otter River on the Big Otter River extending downstream to the confluence of Buffalo Creek with the Big Otter River (Goode, Forest & Lynch Station Quads).

Falling Creek from its headwaters downstream to the Falling Creek mouth on the Big Otter River.

City / County: Bedford Co.

Campbell Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 4A

The Big Otter River Bacteria Total Maximum Daily Load (TMDL) Study is complete with US EPA approval on 02/02/2001 [FED ID 1547 / 9486] and SWCB approval on 6/17/2004 (former VAW-L27R-01). The SWCB approved the Bacteria Implementation Plan on 3/27/2007. The waters are Category 4A for bacteria. The Bacteria TMDL Study encompasses the Little Otter drainage (L26R) including Machine Creek (L26R), Big Otter drainage (L23R, L24R, L27R, L28R- delisted 2008 13.98 mi.) including Sheeps (L23R), North Otter (L24R) and Elk (L25R) Creeks. Falling Creek is not specifically addressed by the Bacteria TMDL Study. However allocation scenario development is for the entire drainage to provide pollutant reductions for all watersheds contributing to the bacteria impairment. Escherichia coli (E.coli) will replace fecal coliform (FC) bacteria 303(d) Listing as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The entirety of the approved study and allocations can be viewed at <http://www.deq.virginia.gov>.

No recreational use impairments are noted in the 1998 303(d) List for the Big Otter River in watershed L27R. The 2002 5.40 mile fecal coliform portion is added to the original former downstream (L28R- 2008 delisted 13.98 miles) 1998 303(d) Listing. Big Otter bacteria impaired waters span from the mouth of Little Otter River on the Big Otter on downstream to the Buffalo Creek confluence. A 2004 IR Falling Creek addition with 5.72 miles brings the total bacteria impaired length to 11.12 miles. The entirety of the approved study and allocations can be viewed at <http://www.deq.virginia.gov>.

Big Otter River (5.40 miles):

4ABOR016.26- (Rt. 24 Bridge) There are no new data beyond the 2004 IR. The 2004 IR reports FC exceeds the 400 cfu/100 ml instantaneous criterion in three of 17 samples. The range of excursions is from 500 cfu/100 ml to greater than 160,000. Three FC samples within the 2008 data window find no exceedences of the instantaneous criterion. 2006 IR finds one of eight FC samples exceeds at 160,000 cfu/100 ml.

Falling Creek (5.72 miles):

4AFNG001.06- Two of two FC samples exceed the 400 cfu/100 ml instantaneous criterion at 2,400 and greater than 160,000 cfu/100 ml.

Big Otter River and Falling Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

11.12

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

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Roanoke and Yadkin River Basins

Cause Group Code **L27R-02-BAC** **Buffalo Creek**

Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

City / County: Bedford Co. Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABWA002.00 6/12 violation rate for e coli

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.09

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L27R-02-BEN** **Buffalo Creek**

Location: Buffalo Creek from an unnamed tributary at the Route 811 crossing in Campbell County to its mouth on the Big Otter River.

City / County: Bedford Co. Campbell Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4ABWA008.57 - Impaired Benthic Assessment - Surrounding land use is residential, increasing sedimentation, flashy flows causing erosion and nutrient enrichment

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.09

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L29R-01-BAC** **Flat Creek**

Location: Flat Creek from the confluence of Yellow Branch to its mouth on the Big Otter River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4AFCA001.40 2/14 violation rate for fecal coliform

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.43

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L30R-01-BAC** **Buffalo Creek**

Location: Buffalo Creek from its headwaters to its mouth on the Roanoke (Staunton) River

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABHA002.47 4/24 violation rate for e coli

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.03

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L30R-02-BAC** **Childrey Creek**

Location: Childrey Creek from its headwaters to its mouth on the Roanoke (Staunton) River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACRE002.52 2/12 violation rate for e coli

Childrey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.40

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L30R-03-BAC** **Straightstone Creek**

Location: Straightstone Creek from its confluence with Little Straightstone Creek to its mouth on the Roanoke (Staunton) River.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASSC002.98 6/12 violation rate for e coli

Straightstone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.46

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L30R-04-BAC** Whipping Creek

Location: Whipping Creek from its headwaters to the mouth on the Roanoke (Staunton) River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AWPP002.53 3/24 violation rate for e coli

Whipping Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.55

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L30R-05-BAC** **Little Straightstone Creek**

Location: Little Straightstone Creek from its headwaters to its mouth on the Roanoke (Staunton) River.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALHT000.70 5/11 violation rate for e coli

Little Straightstone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.36

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L31R-01-BEN** **East Little Seneca Creek, Unnamed Tributary**

Location: From its headwaters to its mouth on East Little Seneca Creek.

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4AXUP000.06 2004 Probabilistic Monitoring - Filamentous algae in spring. Moderate sedimentation. Potential nutrient impact.

East Little Seneca Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.45

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L33R-01-BAC** **Button Creek**

Location: Button Creek from its headwaters to its mouth on the South Fork Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABTF002.16 2/12 violation rate for e coli

Button Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.55

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L33R-02-BAC** **South Fork Falling River**

Location: South Fork Falling River from its headwaters to its mouth on Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station ID: 4AFSF000.66 3/11 violation rate for e coli
4AFSF004.56 4/12 violation rate for e coli
4AFSF011.11 5/11 violation rate for e coli

South Fork Falling River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			16.13

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L34R-01-BAC** **Falling River**

Location: Falling River from its headwaters to its mouth on the Roanoke (Staunton) River

City / County: Appomattox Co. Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A Fecal Coliform / 4A

Station ID: 4AFRV002.78 5/24 violation rate for fecal coliform & 7/11 violation rate for e coli
4AFRV010.99 15/29 violation rate for e coli
4AFRV017.71 5/11 violation rate for e coli
4AFRV025.34 4/11 violation rate for fecal coliform & 4/11 violation rate for e coli
4AFRV029.24 7/11 violation rate for e coli

Falling River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			35.74

Falling River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			25.50

Sources:

Livestock (Grazing or Feeding Operations)	Source Unknown	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L34R-02-BAC** **Little Falling River**

Location: Little Falling River from its confluence with Jacobs Creek to its mouth on Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALRV005.17 5/11 violation rate for e coli

Little Falling River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.31

Sources:

Source Unknown

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Roanoke and Yadkin River Basins

Cause Group Code **L34R-02-PH** Little Falling River

Location: Little Falling River from its confluence with Jacobs Creek to its mouth on Falling River

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

Station ID: 4ALRV007.84 2/9 violation rate for pH - Below 6.0

Little Falling River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			9.31

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L34R-03-BAC** **Suck Creek**

Location: Suck Creek from its headwaters to its mouth on Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASUC001.31 2/12 violation rate for e coli

Suck Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.34

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L34R-04-BAC** **Entry Creek**

Location: Entry Creek from its headwaters to its mouth on Little Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AENT001.64 3/9 violation rate for e coli

Entry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.55

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L34R-04-PH** **Entry Creek**

Location: Entry Creek from its headwaters to its mouth on Little Falling River

City / County: Campbell Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

Station ID: 4AENT001.64 2/9 violations for pH - below 6.0

Entry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.55

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L35R-01-BAC** **Mollys Creek**

Location: Mollys Creek from its headwaters to its mouth on Falling River

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AMEY016.00 10/11 violation rate for e coli
4AMEY010.46 9/22 violation rate for e coli
4AMEY000.40 8/11 violation rate for e coli

Mollys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			16.93

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L36R-01-BAC** **Turnip Creek**

Location: Turnip Creek from its headwaters to its mouth on the Roanoke (Staunton) River

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Station ID: 4ATIP002.55 4/12 violation rate for e coli
4ATIP008.76 6/12 violation rate for e coli
4ATIP013.21 4/12 violation rate for e coli

Turnip Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			18.63

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L36R-02-BAC** **Catawba Creek**

Location: Catawba Creek from its headwaters to its mouth on the Roanoke (Staunton) River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACBA000.22 2/11 violation rate for e coli

Catawba Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.70

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L36R-03-BAC** **Buckskin Creek**

Location: Buckskin Creek from its headwaters to its mouth on the Roanoke (Staunton) River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABCD001.70 2/9 violation rate for e coli

Buckskin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.73

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L37R-01-BAC** **Cub Creek**

Location: Cub Creek from its confluence with Big Cub Creek to its mouth on the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

Station ID: 4ACUB002.21 3/12 violation rate for e coli
4ACUB005.46 3/12 violation rate for e coli
4ACUB010.96 6/33 violation rate for e coli
4ACUB017.46 6/29 violation rate for e coli

Cub Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			22.60

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L37R-02-BAC** **Louse Creek**

Location: Louse Creek from its headwaters to its mouth on Cub Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALOU001.16 4/12 violation rate for e coli

Louse Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.41

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L37R-03-BAC** **Big Cub Creek, Left Hand Fork and Tributaries**

Location: Big Cub Creek from its headwaters to its mouth on Cub Creek, including the Left Hand Fork and its tributaries.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABUB000.06 11/24 violation rate for e coli
4ABUB006.50 4/12 violation rate for e coli

Big Cub Creek, Left Hand Fork and Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			25.02

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L37R-04-BAC** **Little Cub Creek**

Location: Little Cub Creek from its headwaters to its mouth on Cub Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALUB000.12 4/12 violation rate for e coli

Little Cub Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.71

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L37R-05-BAC** **Terrys Creek**

Location: Terrys Creek from its headwaters to its mouth on Cub Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ATYS001.25 7/9 violation rate for e coli

Terrys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.00

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-01-BAC** **Ash Camp Creek**

Location: Ash Camp Creek from its headwaters to its mouth on Roanoke Creek.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4AACC002.60 4/7 violation rate for fecal coliform
4AACC004.87 2/6 violation rate for fecal coliform

Ash Camp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.49

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-01-BEN** **Ash Camp Creek**

Location: Ash Camp Creek from its headwaters to its mouth on Roanoke Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Station ID:
Impaired Benthic Assessments:
4AACC001.75 - 2002 ProbMon
4AACC002.60 - Ash Camp Creek Source Assessment
4AACC004.87 - Ash Camp Creek Source Assessment
4AACC007.62 - Ash Camp Creek Source Assessment

Ash Camp Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.49

Sources:

Crop Production (Crop Land or Dry Land)	Erosion from Derelict Land (Barren Land)	Managed Pasture Grazing	Municipal Point Source Discharges
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-02-BEN** Twittys Creek

Location: Twittys Creek from its headwaters to its mouth on Roanoke Creek.

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Station ID: 4ATWT003.36 - Impaired Benthic Assessment

4ATWT006.40 - Impaired Benthic Assessment

4ATWT008.59 - Impaired Benthic Assessment

Twittys Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			15.09

Sources:

Clean Sediments Non-Point Source Unspecified Urban
Stormwater

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-03-BAC** **Horsepen Creek**

Location: Horsepen Creek from its confluence with Little Horsepen Creek to its confluence with Reynolds Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4AHEN002.16 Ambient station with no new data - current violation rate 0/14 for fecal coliform

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			1.83

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-03-BEN** **Horsepen Creek**

Location: Horsepen Creek from the Route 47 crossing downstream to Little Horsepen Creek

City / County: Charlotte Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4AHEN002.16

Impaired Benthic Assessment - Potential sediment impacts and lack of habitat.

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.27

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-04-BAC** **Wards Fork Creek**

Location: Wards Fork Creek from an unnamed tributary at river mile 5.73 to its mouth on Roanoke Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AWFC002.12 4/20 violation rate for e coli

Wards Fork Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.71

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-05-BAC** **Roanoke Creek**

Location: Roanoke Creek from its confluence with Horsepen Creek to its mouth on the Roanoke (Staunton) River

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AROA001.00 3/12 violation rate for e coli

Roanoke Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.66

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L39R-06-BAC** **Middle Branch Wards Fork Creek**

Location: Middle Branch Wards Fork Creek from its headwaters to its confluence with Wards Fork Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AWMB001.07 3/9 violation rate for e coli

Middle Branch Wards Fork Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.07

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L40R-01-BAC** **Berles Creek**

Location: Berles Creek from its headwaters to its mouth on Sandy Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABLE001.21 5/12 violation rate for e coli

Berles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.18

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L40R-05-BAC** Buffalo Creek, Unnamed Tributary

Location: Buffalo Creek, Unnamed Tributary from its headwaters to its mouth on Buffalo Creek

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

Station ID: 4AXMC000.54 3/11 violation rate

Buffalo Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.48

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L40R-06-BAC** **Buffalo Creek**

Location: Buffalo Creek from the confluence with an unnamed tributary at rivermile 2.3 to its mouth on the Roanoke (Staunton) River.

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

Station ID: 4ABNN001.85 13/24 violation rate for e coli

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.34

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L40R-07-BAC** **Cargills Creek**

Location: Cargills Creek from its headwaters to its mouth on Kerr Reservoir

City / County: Charlotte Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACAR001.70 3/9 violation rate for e coli

Cargills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.27

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L41R-01-BAC** **Difficult Creek**

Location: Difficult Creek from its confluence with East Prong Difficult Creek to its confluence with Ashcake Creek

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ADFF004.90 2/11 violation rate for e coli & 4ADFF009.01 2/11 violation rate for e coli

Difficult Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.40

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L42R-01-BAC** Little Dan River

Location: Little Dan River mainstem from the VA/NC State Line upstream to just above the mouth of Pigg Creek.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Escherichia coli (E.coli) bacteria results render the Recreational Use impaired for 6.77 miles in 2008. Escherichia coli replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ALDR004.50- (Rt. 645 Bridge) Two of nine E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values are 250 and 500 cfu/100 ml.

4ALDR002.61- (Rt. 649 Bridge (Gammons Rd.)) E.coli observations find three of nine in excess of the instantaneous criterion. Values exceeding the criterion range from 400 to 700 cfu/100 ml.

Little Dan River

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

6.77

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L42R-01-TEMP** **Dan River**

Location: The Dan River from the Pinnacles Power House downstream to the VA-NC State Line in Patrick County.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The Dan River 2002 temperature impairment of 9.49 miles is extended 5.61 miles upstream with additional data obtained at 4ADAN181.10. The Aquatic Life Use remains impaired for temperature (Category 5C).

4ADAN181.10- (Rt. 648 Bridge near Kibler (Kibler Valley Rd.)) Two of nine temperature measurements exceed the 21°C Class V stockable trout water criterion. These exceedences occur on 8/24/2005 at 21.8°C and 22.3°C on 8/30/2006.

4ADAN169.57- (Rt. 645 Bridge, VA-NC Stateline) Additional temperature exceedences of the 21°C Class V criterion are found in two of nine measurements within the 2008 data window. The two excursions occur on the same days as at 4ADAN181.10; 8/24/2005 at 21.6°C and 8/30/2006 at 22.5°C. Previous assessment cycles have found temperature exceeds the criterion in one of 11 measurements taken within the 2004 assessment window (1998 - 2002- Station last sampled in May 2000). There were no additional data within the 2006 data window. The 2002 assessment and the original 303(d) Listing Cycle found three of 19 excursions of the criterion. The exceedences are 21.5 °C (1996), 21.2 °C (1997) and 23.6 °C (1998), all occurring in the month of July.

Dan River	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			15.10

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L43R-01-BAC**

South Mayo River

Location: The upper limit is 0.3 miles upstream of the Wilson Creek mouth (near Dobyns) on the South Mayo River and extends downstream to the Virginia / North Carolina State Line.

City / County: Henry Co.

Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

Fecal Coliform / 5A

The South Mayo River Bacteria TMDL Load Duration Study is complete with US EPA approval on 02/27/2004 and SWCB approval on 6/17/2004 for the original 1998 303(d) Listed 5.78 mile impairment. Extensions described below were not specifically addressed by the TMDL Study. The Bacteria TMDL Study can be viewed at <http://www.deq.virginia.gov>. Additional data collection causes the original 1998 bacteria impairment (from Russell Creek mouth downstream to the mouth of Spoon Creek) to be extended 19.98 miles upstream with the 2004 Integrated Report (IR). The 2004 IR also extends the original listed bacteria impairment 10.85 miles downstream for a total impaired mileage of 36.61.

The original bacteria impairment (5.78 miles) is based on fecal coliform bacteria data producing a greater than 10 percent exceedence rate of the former 1998 1000 cfu/100 ml instantaneous criterion at station 4ASMR016.09 (Rt. 700 Bridge at the USGS gaging station). Additional data collection and application of the 400 cfu/100 ml instantaneous criterion results in the 2004 IR extension upstream from two stations 4ASMR033.98 (Rt. 787 Bridge West of Stuart) and 4ASMR027.44 (Rt. 681 Bridge South of Stuart). The 2004 10.85 mile downstream extension in watershed L45 results from additional FC data collection at station 4ASMR004.14 (Rt. 695 Bridge). Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Station 4ASMR033.98 (Rt. 787 Bridge West of Stuart) There are no additional data beyond the 2006 IR. FC exceeds the 400 cfu/100 ml instantaneous criterion in two of 12 samples within the 2008 data window. Exceeding values are 900 and 1200 cfu/100 ml in both assessment cycles. The 2006 IR data window produces FC exceedences in two of 15 samples with the same exceedence range as 2008. The 2004 IR initial 303(d) Listing Cycle found five of 20 fecal coliform samples exceed the 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 to 1200 cfu/100 ml. (Note: 4ASMR033.98 is a 1999 Federal Consent Decree Attachment B station for fecal coliform bacteria. The station was not 2002 303(d) Listed as there are no exceedences of the former 1000 cfu/100 ml criterion from 19 samples within the 2002 data window.)

4ASMR027.44- (Rt. 681 Bridge South of Stuart) Both the 2008 and 2006 IRs find two of 12 FC samples exceed the 400 cfu/100 ml instantaneous criterion at 1400 and 1700 cfu/100 ml. The 2004 IR initial 303(d) Listing Cycle found two exceedences from nine observations and the same range of exceedence.

4ASMR016.09- (Rt. 700 Bridge at the USGS gaging station) The 2008 IR reports E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 11 of 33 samples. The range of exceedence is from 250 to greater than 2000 cfu/100 ml. One geometric mean calculation exceeds the 126 cfu/100 ml criterion at 514. Eight of 20 E.coli samples exceeded the instantaneous criterion within the 2006 data window with the same range of exceedence as 2008 and one geometric mean calculation also exceeding the criterion at 374 cfu/100 ml. One of three E.coli observations exceed the instantaneous criterion in 2004.

4ASMR004.14- (Rt. 695 Bridge) E.coli exceedences occur in four of 17 samples ranging from 350 to 700 cfu/100 ml in 2008. Each excursion is in excess of the 235 cfu/100 ml instantaneous criterion. No exceedences of the geometric mean criterion of 126 cfu/100 ml are found from five calculations.

South Mayo River

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

16.63

South Mayo River

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

19.98

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L43R-01-BEN** **North Fork of the South Mayo River**

Location: North Fork South Mayo River mainstem from its headwaters (36°43'05" / 80°17'54") downstream to below the Route 640 crossing and upstream of the Bull Mountain Fork confluence (36°41'22" / 80°17'09").

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This 2008 2.12 mile initial 303(d) Listing is the result of Virginia Stream Condition Index (VSCI) surveys finding impairment to the benthic community.

4ASNF007.64- (Off Rt. 621, Patrick Co.) Bio 'IM' Four (2001 and 2002) VSCI surveys with an average score of 57.0. The station was located in the front yard of a residence near the headwaters of the stream. Upstream of the station the land cover was dominated by forested land. However immediately above the sample site the property had historically been used as a saw mill. The stream currently goes through two culverts that allow for driveway crossings. The stream has poor in stream habitat within the sample reach as indicated by low scores for substrate, velocity, and sediment. The channel has been altered from its natural shape. The immediate bank vegetation is mowed to the water line and riparian vegetation removed. Despite the habitat impacts the benthic community in most samples consisted of good numbers of several pollution sensitive taxa. It is possible that the benthic community could improve substantially with minimal stream channel and riparian restoration in the immediate stream reach.

North Fork of the South Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.12

Sources:

- Loss of Riparian Habitat
- Streambank
Modifications/destabilization

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L44R-01-BAC** **Spoon Creek**

Location: Spoon Creek mainstem from an unnamed tributary to Spoon Creek (southeast of Patrick Springs (36° 37' 02" / 80° 09' 45") downstream to its confluence with the South Mayo River.

City / County: Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

These 2004 fecal coliform (FC) bacteria 303(d) Listed waters remain impaired for 7.64 miles as non-support for the Recreational Use continues. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Station 4ASOO003.12 (Route 832 Bridge) E.coli exceeds the 235 cfu/100 ml instantaneous criterion in eight of 21 observations. Exceeding values range from 320 to 1600 cfu/100 ml. The 2006 IR finds E.coli exceeds the instantaneous criterion in three of nine observations. Exceeding values range from 320 to 1100 cfu/100 ml.

Spoon Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

7.64

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L46R-01-BAC** North Mayo River

Location: The bacteria impairment begins at the confluence of Laurel Branch and Polebridge Creek extending downstream to the Virginia / North Carolina State Line.

City / County: Henry Co. Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

Station 4ANMR002.60 is a 1999 Federal Consent Decree Attachment B station for fecal coliform bacteria (FC). The station is not 303(d) Listed in 2002 as only one exceedence of the former 1000 cfu/100 ml instantaneous criterion is found from 21 samples. Two stations 4ANMR020.13 (Rt. 626 Bridge) and 4ANMR002.60 (Rt. 629 Bridge at Gage) both found excursions of the 400 cfu/100 ml instantaneous criterion for fecal coliform bacteria in 2004. The Recreational Use remains impaired for 22.43 miles for bacteria exceedences. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ANMR020.13- (Rt. 626 Bridge) There are no additional data beyond the 2006 Integrated Report (IR) where four of 12 FC samples exceed the 400 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 500 to 1000 cfu/100 ml.

4ANMR002.60- (Rt. 629 Bridge at Gage) Three of 11 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedences range from 280 to 1100 cfu/100 ml. 2006 IR finds one (600 cfu/100 ml) of 21 FC samples in excess of the instantaneous criterion. 2004 IR reports FC exceeds the instantaneous criterion in three of 25 samples. Exceedences are 500, 600 and 1100 cfu/100 ml.

North Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			10.24

North Mayo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			12.19

Sources:

Livestock (Grazing or
Feeding Operations)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L47R-01-BAC** **Horse Pasture Creek**

Location: The upper limit of the bacteria impairment is at the confluence of an unnamed tributary East of Route 696 (36°39'38" / 80°00'55") downstream to the mouth of Horse Pasture Creek on the North Mayo River (Spencer and Price Quads).

City / County: Henry Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The waters remain impaired for 7.23 miles for non-support of the Recreational Use. The 2004 original 303(d) Listing for fecal coliform (FC) bacteria continues where Escherichia coli (E.coli) replaces fecal coliform as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AHRN004.93- (Route 695 Bridge) E.coli exceed the 235 instantaneous criterion in six of 21 samples. Exceeding values range from 280 cfu/100 ml to 1050. Three excursions each of the FC 400 and E.coli 235 cfu/100 ml instantaneous criteria are found from nine observations within the 2006 data window. The FC range of exceedence is from 600 to 2000 cfu/100 ml while E.coli exceeds in the range of 280 to 1050. The 2004 IR finds FC exceeds the 400 cfu/100 ml instantaneous criterion in five of 17 samples with a range of exceedence as noted above.

Horse Pasture Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.23

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L49R-01-BAC** **Matrimony Creek**

Location: Matrimony Creek mainstem from the NC/VA State Line downstream to Matrimony Creek's return to North Carolina.

City / County: Henry Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The 4.77 mile 2008 303(d) Listing is due to Escherichia coli (E.coli) bacteria excursions of the 235 cfu/100 ml instantaneous criterion. Station 4AMTR010.33 (Off Rt. 637 Bridge, Henry Co.) reports three of nine E.coli samples exceed the instantaneous criterion. Excursions range from 450 to greater than 2000 cfu/100 ml.

Matrimony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.77

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L50R-01-TEMP** **Smith River**

Location: The temperature impaired waters begin at the mouth of Rich Run on the Smith River and extend downstream to the mouth of Widgeon Creek on the Smith River spanning the Woolwine and Charity Quads.

City / County: Patrick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

Exceedence of the WQS Class VI 20°C temperature criterion for this natural trout water caused the 2002 303(d) Listing of these waters. The 9.18 mile Aquatic Life Use impairment remains.

4ASRE075.69- (Rt. 708 Bridge) Temperature exceeds the 20°C natural trout criterion in 12 of 41 measurements with the 2008 assessment. The range of exceedence is from 20.4 to 24.3°C all occurring in the summer months. 2006 records nine of 33 measurements exceeding the criterion and ranging from 21 to 24°C. Excursions are found primarily during the 1999-2002 drought. The temperature impairment, originally listed in 2002, is based on 4ASRE075.69 data where three of 20 measurements exceed the criterion.

Supplemental information: (Outside 2008 Assessment data window 2000 - 2004): Two of eight exceedences of the 20°C criterion are recorded by the US Geological Survey (USGS) station 02071510. The excursions are from July 18 (23°C) and August 15 (24°C) 1995. The USGS station is located 1.19 miles upstream of any known potential source of heat at the Rt. 615 crossing.

Smith River	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			9.18

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L51R-01-TEMP** **Rennet Bag Creek**

Location: Rennet Bag Creek from its headwaters downstream to its inundation at Philpott Reservoir. The impairment spans the Endicott, Charity and Philpott Reservoir Quads.

City / County: Floyd Co. Franklin Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

Station 4ARBC005.44 is utilized to assess both the natural trout and stockable trout waters for this stream. Station 4ARBC005.44 is located on Rt. 43 west of Endicott near the downstream end of the WQS 9.04 mile natural trout water section. And is just upstream of the Class V stockable trout waters that are 2.11 miles in length. Both WQS Classes are assessed by this station. The 2002 temperature impairment remains from the initial 303(d) Listing.

4ARBC005.44- (Rt. 43 west of Endicott) The natural trout water criterion of 20°C is exceeded in three of eight measurements taken within the 2008 data window. These excursions are 20.6 (8/25/05), 21.9 (6/22/06) and 21.6 (8/29/06). Based on these results two of eight temperature measurements exceed the stockable trout water criterion of 21°C. In the 2002 and 2004 (no additional data) assessments two temperature exceedences from six measurements are found. Temperature excursions of the WQS Class V (stockable trout) 21°C and Class VI (natural trout) 20°C criteria occurred in the summer months of August 1999 at 26.4 °C and June 2000 at 23.3 °C. Both excursions occur during the 1999-2002 drought years.

Rennet Bag Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			11.15

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L52R-01-BAC** **Smith River**

Location: The bacteria impairment begins at the Blackberry Creek mouth on Smith River VAW-L52R (Bassett Quad) and extends downstream to the backwaters of the Martinsville power pool (Martinsville West Quad).

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The 2002 Assessment basis for 303(d) Listing the waters is exceedence of the former fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml and the geometric mean of 200 cfu/100 ml causing the waters to not support the recreational use. Special monitoring on Blackberry Creek (L52R) and the Smith River (L53R) reported and 303(d) Listed these exceedences in 2002.

A portion of the bacteria impaired waters were delisted in 2004 for the area between the Blackberry Creek mouth on the Smith River (L52R Bassett Quad) extending downstream to the Reed Creek confluence on the Smith River L53R- Martinsville West Quad), 2.29 miles. The de-listing of these waters was based on an exceedence rate of less than 10.5%. This portion returns to 303(d) Listing status with the 2006 Integrated Report (IR) based on magnitude of exceedences. The total bacteria impairment size is 10.18 miles. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Special Study Stations:

2008 E. coli exceedences / total observations; range 2008 / 2004 exceedences / total observations; range 2004.

2000W0034B- (downstream of Blackberry Creek confluence)- SS data ends 6/06/02- 1 of 10 at 270 / 2004- 2 of 20; 270 to >800.

2000W0034A- (located downstream in VAW-L53R)- SS data ends 6/06/02- 1 of 11 exceeds at >800 / 2004- 2 of 21; at >800.

4ASRE036.55- E.coli are found to exceed the 235 cfu/100 ml instantaneous criterion in three of 21 samples. Exceeding values range from 250 to 720 cfu/100 ml.

4ASRE033.19- E.coli exceed the 235 cfu/100 ml criterion in four of 31 samples. Exceeding values range from 280 to 1000 cfu/100 ml. One of five geometric mean calculations exceeds the 126 cfu/100 ml criterion at 249.

Smith River

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

10.18

Sources:

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wet Weather Discharges
(Point Source and
Combination of Stormwater,
SSO or CSO)

Wildlife Other than
Waterfowl

*Appendix A - List of Impaired (Category 5) Waters in 2008**

Roanoke and Yadkin River Basins

Cause Group Code **L52R-02-BAC**

Blackberry Creek and Blackberry, UTs

Location: The impairment begins at the headwaters of Blackberry Creek (~RM 13.63) and extends downstream to Blackberry Creek's mouth on the Smith River. The impaired waters include an unnamed tributary from the north (XMI). The mouth of the unnamed tributary is at 36° 44' 38" / 80° 03' 07". The bacteria impairment spans the Charity, Sanville, Martinsville West and Bassett Quads.

City / County: Henry Co.

Patrick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Exceedence of the former fecal coliform (FC) instantaneous criterion of 1000 cfu/100 ml and the geometric mean of 200 cfu/100 ml caused the waters to not support the recreational use in 2002. Ambient station 4ABRY000.05, a 1999 Federal Consent Decree Attachment B station is 2002 303(d) Listed with a 2010 TMDL schedule date. The 2002 fecal coliform exceedence rate of 15 percent from three of 20 samples at 4ABRY000.05 resulted in the original 303(d) Listing. Exceedence of the Escherichia coli 235 cfu/100 ml instantaneous criterion and the geometric mean in 2004 continue to show nonsupport with the 2008 Integrated Report (IR). Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

The Recreational Use is impaired for a total of 14.84 miles in the Blackberry Creek drainage. An unnamed tributary comprises 1.20 miles of the overall impairment.

Special monitoring of Blackberry Creek began in the fall of 1999 after complaints from local residents regarding sewer service in the Blackberry Creek drainage. Listed below are stream coded sites having data within the 2008 data window and 2000 Special Study (SS) sites and instantaneous results from the 2004 IR. All values are in cfu/100 ml.

4ABRY011.44 formerly 2000W0034L- (at Microfilm Road)

4ABRY010.27 formerly 2000W0034J- (Rt. 687 Bridge)

4ABRY000.05 formerly 2000W0034E- (American Legion Bridge)

Special Study Stations:

2008 E. coli exceedences / total observations; range 2008 / 2004 exceedences / total observations; range 2004.

2000W0034C- (Rt. 57A) SS data ends 6/06/02 - 2 of 11 / range 500 to >800 / 2004 - 5 of 21 range 340 to >800.

2000W0034E- (American Legion Bridge) SS data ends 6/06/02 - 2004 - 7 of 20 / range 250 to >800.

4ABRY000.05- No E.coli data. 2004 FC exceeds the 400 cfu/100 ml instantaneous criterion in four of 20 samples with exceeding values ranging from 500 cfu/100 ml to greater than 8000.

2000W0034F- (upstream of Rt. 698 Bridge) SS data ends 6/06/02 - 5 of 11; range 280 to >800 / 2004 - 10 of 21 range 280 to >800.

2000W0034G- (Rt. 676 Bridge) SS data ends 6/06/02 - 1 of 10 / 620 / 2004 - 2 of 20; range 330 to 620.

2000W0034H- (Rt. 677 end) SS data ends 6/06/02 - 2 of 10; 280 and >800 / 2004 - 3 of 20; 280 and >800.

2000W0034I- (Rt. 882 Bridge) SS data ends 6/06/02 - 4 of 11; range 400 to greater than 800 / 2004 - 7 of 21; range 330 to >800.

2000W0034J- (Rt. 687 Bridge) SS data ends 6/06/02 - 2004 - 5 of 15; range 290 to >800.

2000W0034L- (at Microfilm Road) SS data ends 6/06/02 - 2004 - 8 of 19 / range 250 to >800.

2000W0034R- (along Rt. 799) SS data ends 6/06/02 - 4 of 10; range 400 to >800 / 2004 - 8 of 20; range 380 to greater than 800.

Unnamed Tributary (UT) stations - No NHD stream trace.:

2000W0034M (above confluence w/Blackberry Cr.) SS data ends 6/06/02 - 0 of 10 / 2004 - 1 of 20; 280.

2000W0034S (above Rt. 832 Bridge) SS data ends 4/23/01 - 0 of 4 / 2004 - 1 of 11; >800.

2000W0034T (above Westwood Rt. 1226) SS data ends 12/17/01 - 1 of 5; 710 / 2004 - 6 of 15 / range 490 to >800.

Unnamed Tributary (XMI):

2000W0034O (below Westwood Lagoon) SS data ends 6/06/02 - 6 of 10; range 300 to 630 / 2004 - 12 of 19; range 250 to >800.

2000W0034P (immediately above Westwood Lagoon) SS data ends 6/06/02 - 3 of 10; range 280 to >800 / 2004 - 7 of 20 / range 290 to >800.

2000W0034U (below Westwood Lagoon) SS data ends 6/06/02 - 5 of 10; range 250 to 510 / 2004 - 9 of 19 / range 250 to >800.

2000W0034V (below Westwood Lagoon) SS data ends 6/06/02 - 3 of 10; range 270 to 410 / 2004 - 8 of 19 / range 250 to 780.

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Blackberry Creek and Blackberry, UTs	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			14.84

Sources:

Municipal (Urbanized High Density Area)	Municipal Point Source Discharges	Unspecified Domestic Waste	Wastes from Pets
Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl		

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L53R-01-BEN** **Smith River**

Location: Smith River from the former Henry County PSA Upper Smith River STP outfall downstream to the backwaters of the Martinsville Dam Power Pool.

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This 2008 4.75 mile 303(d) Listing is the result of contravention of the General Standard.

4ASRE031.00- (Behind Church at Kohler) Bio 'IM' Four VSCI surveys (2003 - 2006) with an average score of 51.6. Compared to the upstream control site, there is a difference in the average Stream Condition Index (SCI) score (51.6 at this station versus 60.1 at 4ASRE033.19). The benthic community typically has fewer total taxa and fewer sensitive taxa than the reference site. The station is approximately 1.54 miles below the former Upper Smith River WWTP. Similar to the reference station, this reach of the river appears to be impacted by sediment deposition and urban NPS runoff. The WWTP ceased discharge November 11, 2003 and the VPDES permit terminated in June 2004. Benthic community scores declined between 2000 and 2004 and increased between 2005 and 2006.

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.75

Sources:

Municipal (Urbanized High Density Area) Sediment Resuspension (Clean Sediment)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L53R-02-BAC** **Jordan Creek**

Location: The mainstem waters of Jordan Creek from its headwaters to its mouth on the Smith River.

City / County: Henry Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The 2006 303(d) Listed 5.77 mile waters remain impaired for the Recreational Use.

4AJOR000.02- (Rt. 682 Bridge) Seven of 21 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values are 380 cfu/100 ml.

Jordan Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.77

Sources:

Municipal (Urbanized High Density Area)	Residential Districts	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L53R-03-BAC** Beaver Creek

Location: The mainstem waters of Beaver Creek from its mouth on the Smith River upstream to the Martinsville Reservoir.

City / County: Henry Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The Recreational Use remains impaired for these 2006 303(d) Listed 5.09 mile waters.

4ABAU000.94- (Rt. 220 Business Bridge) Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in 13 of 21 samples. Exceeding values range from 380 to greater than 2000 cfu/100 ml.

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.09

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L53R-03-BEN** Beaver Creek

Location: Beaver Creek mainstem from its headwaters downstream to its inundation at the Martinsville Reservoir.

City / County: Franklin Co. Henry Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 IR reports the Aquatic Life Use impaired for 6.92 miles due to contravention of the General Standard.

4ABAU011.17- (Off Rt. 922 upstream of Rt. 657 crossing) Bio 'IM' Two 2004 Virginia Stream Condition Index (VSCI) surveys with an average score of 51.2. Sediment deposition, bank erosion, bank vegetation, and riparian buffer width scores were low in this reach. Approximately 46% of the riparian land cover in the watershed is agricultural. The benthic community is dominated by pollution tolerant organisms and appears to be affected by habitat impacts

Beaver Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			6.92

Sources:

Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)	Streambank Modifications/destabilization
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L53R-04-BAC** **Reed Creek**

Location: Reed Creek mainstem from its mouth on the Smith River upstream approximately one mile above the Rt. 609 crossing.

City / County: Henry Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This 2008 303(d) Listed water extends 3.95 miles resulting in non-support for the Recreational Use.

4AREE000.80 (Rt. 993 Bridge upstream of Rt. 57 Bridge) Four Escherichia coli (E.coli) values from 21 samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 300 to greater than 2000 cfu/100 ml.

Reed Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.95

Sources:

Municipal (Urbanized High Density Area)	Residential Districts	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L53R-04-BEN** **Jones Creek, UT (XMP)**

Location: Unnamed tributary (XMP) to Jones Creek from downstream of the Henry County Landfill to its confluence with Jones Creek.

City / County: Franklin Co. Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2006 303(d) Listed 2.04 mile Aquatic Life Use impairment remains due to contravention of the General Standard.

4AXMP001.85- (directly below Henry County Landfill) 4AXMP001.85- Bio 'IM' A single Virginia Stream Condition Index (VSCI) survey scoring spring 2003 47.1. Analysis of the benthic community data with VSCI metrics displays a difference between the benthic communities above and below the landfill. The community at the reference site (4AXMP002.21, VSCI avg.=72.8) was very diverse in pollution sensitive organisms and approximated what would be considered Ecoregion reference quality for a first order stream in the Piedmont area. Two metrics that show the difference in pollution sensitivity of the communities are the Taxa Richness and EPT metrics. EPT represents the sensitive Mayflies, Stoneflies, and Caddisflies. The reference site also had a much higher number of organisms present (159) in a similar amount of habitat sampled relative to the impact site (34).

The main physical difference between the two stations is the presence of large growths of sphaerotilus bacteria at the downstream site. The bacteria covered practically every part of the stream substrate including the mineral sand, gravel and cobble bottom of the stream as well as the woody debris and leaf packs in stream. This covering ranged in thickness from about one inch in high velocity areas to approximately one foot in pool habitats. This bacterium typically thrives in waters impacted by organic effluents and is often referred to as "sewage fungus." This bacterium was not observed at the reference site. Such a large presence of this bacterium indicates a pollution impact. More recent investigations have found that sphaerotilus bacteria is common in waters impacted by landfill leachate indicating that excessive growths are related to volatile organic chemicals. The bacterial growth has an impact on the abundance of benthic organisms.

4AXMP001.26- One fall 2006 survey scoring 57.4. Several metrics indicated a substantial difference in the pollution sensitivity of the communities at this station versus the upstream site. This sample also required 3.5 times more effort than the upstream site to collect an equivalent number of organisms, displaying a large difference in macroinvertebrate abundance.

Jones Creek, UT (XMP)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.04

Sources:

Landfills

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L54R-01-BAC** **Smith River**

Location: The bacteria impairment begins at the Martinsville Dam (Martinsville West Quad) and extends downstream to the VA/NC State Line on the Northwest Eden Quad.

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station 4ASRE022.71 is a 1999 Federal Consent Decree Attachment B station and was not 2002 listed as impaired. Only four of 59 samples exceeded the former 1000 cfu/100 ml instantaneous criterion for an exceedence rate of 6 percent in 2002. The 2002 303(d) Listing for 10.16 miles has been extended upstream 3.59 miles (2004 Integrated Report (IR)) and downstream 6.30 miles (2006 IR) for a total of 20.05 miles thru the 2008 Assessment. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ASRE026.27- Two E.coli samples exceed the 235 cfu/100 ml instantaneous criterion from 21 total samples. The E.coli data indicate this station would meet delisting guidance however the range of exceeding values is from 600 to 1060 cfu/100 ml. Due to the magnitude of the exceedences and the lack of E.coli data at 4ASRE022.71 the waters remain impaired for the Recreational Use.

4ASRE022.71- (Footbridge above the Martinsville STP) There are no additional data beyond the 2004 IR where eight of 41 FC samples exceed the 400 cfu/100 ml instantaneous criterion. Exceeding values range from 500 to greater than 8000 cfu/100 ml. The 2004 IR 303(d) Listing extends the 2002 bacteria impairment 3.59 miles upstream from the original 303(d) Listing. Data within the 2006 data window find three of 17 samples in excess of the criterion with exceeding values ranging from 600 to 900 cfu/100 ml.

4ASRE021.58 (Rt. 58 Bypass Bridge, Henry Co.) E.coli excursions range from 300 to 1400 cfu/100 ml in four of nine samples. Each exceedence is in excess of the 235 cfu/100 ml instantaneous criterion. The 2006 data window produces three of 17 FC samples in excess of the criterion ranging from 1100 to greater than 8000 cfu/100 ml. The 2004 IR reports six of 35 FC observations exceed the 400 cfu/100 ml instantaneous criterion. The exceeding values range from 600 to greater than 8000 cfu/100 ml.

4ASRE019.00- Six of 20 E.coli observations exceed the instantaneous criterion. Exceeding values range from 250 to 1060 cfu/100 ml. Two of six geometric mean calculations exceed the 126 cfu/100 ml criterion at 150 and 235.

4ASRE015.43 (Rt. 636 Bridge) E.coli exceed the instantaneous criterion in four of 20 samples. The range of exceedence is from 250 to 990 cfu/100 ml. One of six geometric mean calculations exceeds the 126 cfu/100 ml criterion at 306. One excursion of the instantaneous criterion is found from 17 observations within the 2006 data window. The single exceedence is 1100 cfu/100 ml. 2004 IR findings are FC exceeds the 400 cfu/100 ml criterion in six of 35 samples. Exceeding values range from 500 to 1300 cfu/100 ml.

4ASRE007.90- E.coli exceedences of the 235 cfu/100 ml instantaneous criterion range from 250 to 600 cfu/100 ml in six of 21 samples. The 2006 IR found six of 48 FC samples exceed the 400 cfu/100 ml instantaneous criterion with exceedences ranging from 600 to 950 cfu/100 ml within the 2006 data window.

Smith River

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

20.05

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L54R-01-BEN** **Smith River**

Location: The benthic impairment begins at the Martinsville Dam (Martinsville West Quad) and extends downstream to the mouth of Turkeypen Creek on the Northwest Eden Quad.

City / County: Henry Co. Martinsville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 1998 Aquatic Life Use impairment remains for these 13.75 mile waters. Two municipal facilities have closed as a result of industrial plant closings in the Martinsville / Henry County area. Greatly reduced influent chloride levels from industrial inputs to the Martinsville STP are a result. An earlier 1998 Corbicula study indicates chlorides may have impacted the benthos. However the benthic community impairment remains.

4ASRE026.04 (below Martinsville Dam formerly coded 4ASRE026.38) Bio 'IM' [EDAS coded 4ASRE026.38] Two Virginia Stream Condition Index (VSCI) surveys (2003 & 2004) with an average score of 49.2. The Martinsville Dam affects the river by periodically causing the stream substrate to become dewatered, reducing the amount of habitat available for benthic macroinvertebrate production. The Dam also affects water quality from releases of water higher in temperature and lower in oxygen than it would be without the impoundment. Improvements by the closing of the former Upper Smith River Wastewater Treatment Plant may be responsible for increased assessment scores since 2000. However, improvements in the community may be negated by the Martinsville Dam effect.

4ASRE022.30 (below the Martinsville STP) Bio 'IM' Five VSCI surveys (2001, 2003, 2004-2006) with an average score of 51.3. Historical data shows that the benthic community at this site typically consisted of more pollution tolerant taxa in the spring. The fall 2001 assessment showed a loss of sensitive taxa relative to the upstream control site (4ASRE033.19) and was dominated (49%) by the pollution tolerant midge larvae, Chironomidae. The fall 2005 survey indicated a community dominated by the moderately tolerant caddisfly Hydropsychidae (an indication of organic and nutrient pollution). Improvement in the operation of the Martinsville WWTP may be responsible for the increasing assessment scores since 2001.

4ASRE019.00 (above the Marrowbone Creek mouth) Bio 'IM' Five VSCI surveys (2001, 2003, & 2004-2006) with an average score of 42.4. The dominant family observed at this station has typically been the moderately tolerant caddisfly Hydropsychidae (an indication of organic and nutrient pollution). In the fall 2001 survey, the numbers of sensitive insects in the orders Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies) decreased and the number of pollution tolerant organisms increased relative to earlier surveys. In the two most recent surveys, Hydropsychidae and other nutrient/organic pollution tolerant families dominated the samples. This station is downstream of the Martinsville and former Lower Smith River WWTP (Henry County PSA). Non-point source urban runoff and sediment from land use conversion throughout the watershed also affect the river. The closure of the Lower Smith River Wastewater Treatment Plant (just upstream of this station) in November 2005 did not appear to have a positive affect on the benthic community.

4ASRE015.43 (Rt. 636 Bridge) Bio 'IM' Five VSCI surveys (2001, 2003-2004, 2006) with an average score of 52.1. The station is the furthest downstream biological monitoring site on the Smith River and the first site where the benthic community historically shows signs of recovery. Non-point source urban runoff and sediment appear to affect the river. The station is located downstream of Leatherwood Creek which may be a significant source of sediment. Recent surveys show the benthic community is dominated by the moderately tolerant caddisfly Hydropsychidae, an indication of organic and nutrient pollution. There was some improvement in the benthic community between 1999 and 2001. Improved water quality may have been the result of operational improvements at the Martinsville WWTP. However, the decline in benthic community scores since 2003 indicates that water quality is still degraded.

Smith River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			13.75

Sources:

Dam or Impoundment	Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)	Silviculture Harvesting
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L55R-01-BAC** **Marrowbone Creek**

Location: The bacteria impairment begins at the former Henry County PSA Water Treatment Plant on Marrowbone Creek and extends downstream to Marrowbone Creek's mouth on the Smith River (Northwest Eden Quad).

City / County: Henry Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station 4AMRR000.02 is a 1999 Federal Consent Decree Attachment B station. The 2002 303(d) Listing remains for fecal coliform bacteria where five of 23 samples exceed the former 1000 cfu/100 ml instantaneous criterion. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4AMRR000.02 (Rt. 642 Bridge) Three of 11 E.coli exceedences ranging from 270 cfu/100 ml to 1410 cause non-support of the Recreational Use.

Marrowbone Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

4.33

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

Unspecified Domestic Waste

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L56R-01-BAC**

Leatherwood Creek and Headwater Tributaries

Location: This bacteria impairment begins in the headwater tributaries and mainstem of Leatherwood Creek, excluding the West Fork of Leatherwood Creek, on downstream to its mouth on the Smith River (Martinsville East and Northwest Eden Quads).

City / County: Henry Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Station 4ALWD002.54 is a 1999 Federal Consent Decree Attachment B station. The waters are 2002 303(d) Listed for fecal coliform bacteria where three of 23 samples exceed the former 1000 cfu/100 ml instantaneous criterion (1996 to 2000 data window). The 2002 original 8.31 mile 303(d) Listing is extended 15.95 miles with the 2006 Integrated Report (IR) as described below. Bacteria impaired waters now total 24.26 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

4ALWD011.03 (Rt. 648 Bridge) Eight of 21 E.coli samples exceed the 235 cfu/100 ml criterion. Values in excess of the criterion range from 250 to 1600 cfu/100 ml. Two of five geometric mean calculations exceed the 126 cfu/100 ml criterion at 188 and 704 cfu/100 ml. 2006 E.coli results extended the bacteria impairment on the mainstem of Leatherwood upstream to include headwater tributaries (excluding the West Fork) for a total of 15.95 miles.

4ALWD002.54 (Rt. 650 Bridge) Eight of 31 E.coli samples exceed the 235 cfu/100 ml criterion. Values in excess of the criterion range from 250 to 1600 cfu/100 ml. Two of five geometric mean calculations exceed the 126 cfu/100 ml criterion at 188 and 704 cfu/100 ml

Leatherwood Creek and Headwater Tributaries

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

24.26

Sources:

Livestock (Grazing or
Feeding Operations)

Municipal (Urbanized High
Density Area)

On-site Treatment Systems
(Septic Systems and Similar
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wet Weather Discharges
(Non-Point Source)

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L57R-03-BAC** **Dan River**

Location: Dan River from the downstream most Virginia/North Carolina State Line (exiting Virginia) in Watershed L57R upstream to the Rt. 880 crossing (Virginia/North Carolina State Line entering Virginia).

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

Station ID: 4ADAN075.22 5/31 violation rate for fecal coliform & 2/8 violation rate for e coli

Dan River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			7.78
Dan River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			7.78

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L57R-04-BAC** Cascade Creek

Location: Cascade Creek from its headwaters to the VA/NC state line.

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACAS001.92 4/12 violation rate for e coli

Cascade Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			11.76

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L58R-02-BAC** **Tardy Creek**

Location: Tardy Creek from the confluence of Glady Fork to South Prong Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ATRD000.04 3/12 violation rate for e coli

Tardy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.84

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L58R-03-BAC** **South Prong Sandy River**

Location: South Prong Sandy River from its headwaters to its confluence with the Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASSP002.44 5/24 violation rate for e coli

South Prong Sandy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.05

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L58R-04-BAC** **Sandy River**

Location: Sandy River from its headwaters to its confluence with Bawley Branch

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASRV022.99 3/12 violation rate for e coli & 4ASRV025.40 4/9 violation rate for e coli

Sandy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.73

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L58R-05-BAC** **Sugartree Creek**

Location: Sugartree Creek from its headwaters to its mouth on Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASUT000.89 3/9 violation rate for e coli

Sugartree Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.57

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L58R-06-BAC** **Stewart Creek**

Location: Stewart Creek from its headwaters to its mouth on Sandy River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASWA002.97 3/12 violation rate for e coli

Stewart Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.28

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L59R-01-BAC** **Sandy Creek**

Location: Sandy Creek from its headwaters to its confluence with Little Sandy Creek

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASCR007.06 3/12 violation rate for e coli

Sandy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.15

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-01-BAC** **Dan River**

Location: Dan River from its confluence with Mineral Springs Branch to its confluence with Peters Creek (Kerr Reservoir).

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ADAN028.90 3/21 violation rate for e coli
4ADAN015.30 5/34 violation rate for e coli

Dan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			34.63

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-01-DDE** **Dan River**

Location: Dan River from the Town of South Boston raw water intake location to the Peter Creek confluence (Kerr Reservoir)

City / County: Halifax Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: DDE / 5A

Station ID: 4ADAN012.51 DDE 1 Species
4ADAN013.34 (1999 FT/Sed) DDE 1 Species

Dan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDE - Total Impaired Size by Water Type:			9.80

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-01-DDT** **Dan River**

Location: Dan River from the Town of South Boston raw water intake location to the Peter Creek confluence (Kerr Reservoir)

City / County: Halifax Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: DDT / 5A

Station ID: 4ADAN012.51 Total DDT 1 Species
4ADAN013.34 (1999 FT/Sed) Total DDT 1 Species

Dan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
DDT - Total Impaired Size by Water Type:			9.80

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-01-HG**

Dan River, Hyco River, Banister River

Location: Dan River within the state of Virginia from the Brantley Steam Plant Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 bridge and Banister River up to the Banister Dam.

City / County: Danville City

Halifax Co.

Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

Fish Tissue and Sediment sampling scheduled for 2007.

VDH Fish Advisory - Mercury: Issued 8/31/07

Dan River, Hyco River, Banister River

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Mercury in Fish Tissue - Total Impaired Size by Water Type:

1,655.60

56.40

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-01-PCB** **Dan River, Hyco River, Banister River**

Location: Dan River within the state of Virginia from the Brantley Steam Plant Dam in Danville downstream to the confluence with Roanoke River on John. H. Kerr Reservoir, including its tributaries Hyco River up to Rt. 738 bridge and Banister River up to the Banister Dam.

City / County: Danville City Halifax Co. Pittsylvania Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Fish Tissue and Sediment sampling scheduled for 2007.

VDH Fish Advisory - PCBs: Issued 10/27/99, revised 12/31/04

Dan River, Hyco River, Banister River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		1,655.60	56.40

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-02-BAC** **Pumpkin Creek**

Location: Pumpkin Creek from the VA/NC state line to its mouth on the Dan River

City / County: Danville City Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4APKP002.31 2/12 violation rate for e coli

Pumpkin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L60R-03-BAC** **Cane Creek**

Location: Cane Creek from its headwaters to the VA/NC state line

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACAN000.80 2/9 violation rate for e coli

Cane Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			12.02

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L61R-01-BAC** **Fall Creek**

Location: Fall Creek from its headwaters to its mouth on the Dan River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AFAL001.58 3/12 violation rate for e coli & 4AFAL005.42 5/12 violation rate for e coli

Fall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			11.79

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L62R-03-BAC** **Double Creek**

Location: Double Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co. Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ADBC002.19 2/18 violation rate for e coli

Double Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.30

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L62R-04-BAC** **Byrds Branch**

Location: Byrds Branch from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABYR000.80 10/24 violation rate for e coli & 4ABYR002.13 3/12 violation rate for e coli

Byrds Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.99

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L62R-05-BAC** **Big Toby Creek**

Location: Big Toby Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABTC000.60 3/9 violation rate for e coli

Big Toby Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.54

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L62R-06-BAC** **Powells Creek**

Location: Powells Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4APOW000.69 2/8 violation rate for e coli

Powells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.90

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L62R-07-BEN** **Wolfe Creek**

Location: Wolfe Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co. Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4AWFE001.57
Impaired Benthic Assessment - Bedrock dominated stream with minimal large woody debris. Moderate sediment deposition.

Wolfe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.82

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L63R-01-BAC** **Birch Creek**

Location: Birch Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

Station ID: 4ABIR001.00 E. coli - 7/13 Violation Rate
4ABIR004.22 E. coli - 5/12 Violation Rate
4ABIR005.34 E. coli - 6/12 Violation Rate
4ABIR011.55 E. coli - 4/21 Violation Rate
4ABIR014.28 E. coli - 2/12 Violation Rate

Birch Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			19.71

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L63R-02-BAC** **Birch Creek, Unnamed Tributary**

Location: Birch Creek, Unnamed Tributary from its headwaters to its mouth on Birch Creek

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AXDK000.94 4/12 violation rate for e coli

Birch Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.13

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L64R-01-BAC** **Lawsons Creek**

Location: Lawsons Creek from its headwaters to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

Station ID: 4ALSN001.04 2/11 violation rate for fecal coliform & 4ALSN007.45 4/12 violation rate for e coli

Lawsons Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.51
Lawsons Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.01

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L64R-02-BAC** **Miry Creek**

Location: Miry Creek from the Mikes Creek confluence to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AMRY000.82 11/24 violation rate for e coli

Miry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.06

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L64R-03-BEN** **Grassy Creek**

Location: Grassy Creek from its headwaters to the Route 744 bridge crossing

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4AGSY004.98 Impaired Benthic Assessment - Stream borders a pasture and cattle have access to creek. Numerous eroded paths to the stream were noted. Minimal flow, minimal riparian zone with sparse trees and short grass. The segment was not extended to the Dan River because it is unknown whether or not the land use is similar downstream of Route 744.

Grassy Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.84

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L65R-01-BAC** **Banister River**

Location: Banister River from its headwaters to its confluence with Wet Sleeve Creek

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABAN074.58 3/12 violation rate for e coli

Banister River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.65

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L65R-02-BAC** **Bearskin Creek**

Location: Bearskin Creek from its headwaters to its mouth on the Banister River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABKN000.52 2/10 violation rate for e coli & 4ABKN002.47 4/12 violation rate for e coli

Bearskin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.31

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L66L-01-DO** **Roaring Fork Reservoir**

Location: Roaring Fork Reservoir from its impounding structure to its backwaters

City / County: Pittsylvania Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID: 4ARFK000.20 2/17 violation rate for Dissolved Oxygen. Insufficient data to make nutrient assessment

Roaring Fork Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			18.97

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L66R-01-BAC** **Cherrystone Creek**

Location: Cherrystone Creek from the Cherrystone Creek Dam to the Chatham STP outfall

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACRR003.56 2/12 violation rate for e coli

Cherrystone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.84

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L66R-02-BAC** **Little Cherrystone Creek**

Location: Little Cherrystone Creek from its headwaters to its mouth on Cherrystone Creek

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALCC000.59 3/8 violation rate for e coli

Little Cherrystone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.42

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L67R-01-BAC** **Banister River**

Location: Banister River from its confluence with Elkhorn Creek to the backwaters of Banister Lake

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABAN023.28 5/25 violation rate for e coli & 4ABAN029.81 violation rate for e coli

Banister River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.13

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L67R-02-BAC** **Allen Creek**

Location: Allen Creek from its headwaters to its mouth on the Banister River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AALL001.13 6/9 violation rate for e coli

Allen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L68R-01-BAC** **Whitehorn Creek**

Location: Whitehorn Creek from its confluence with Georges Creek to its mouth on the Banister River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AWRN000.43 2/11 violation rate for e coli

Whitehorn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			0.82

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L69R-01-BAC** **Stinking River**

Location: Stinking River from its headwaters to its mouth on the Banister River

City / County: Pittsylvania Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASNE005.30 2/12 violation rate for e coli & 4ASNE010.46 2/12 violation rate for e coli

Stinking River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.55

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L71L-01-DO** **Banister Lake**

Location: From its impounding structure to its backwaters on the Banister River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID: 4ABAN012.46 Dissolved Oxygen - 9/40 Violation Rate

Non-187 Lake - All DO samples assessed

Banister Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			351.84

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L71R-04-BAC** **Banister River**

Location: Banister River from its confluence with Wolf Trap Creek to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABAN001.86 2/11 violation rate for e coli

Banister River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.39

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L71R-05-BAC** **Polecat Creek**

Location: Polecat Creek from its headwaters to its mouth on the Banister River.

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4APEC006.49 3/13 violation rate for fecal coliform

Polecat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			9.56

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L71R-06-BAC** Winn Creek

Location: Winn Creek from its headwaters to its mouth on the Banister River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AWNN000.99 2/12 violation rate for e coli

Winn Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L71R-07-DO** **Gibson Creek**

Location: Gibson Creek from its headwaters to its mouth on the Banister River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID: 4AGIB000.66 2/6 violation rate for dissolved oxygen

Gibson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			5.26

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L73L-03-BAC** **Dan River**

Location: The Dan River from the Peter Creek confluence to its confluence with the Roanoke (Staunton) River (Kerr Reservoir).

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ADAN015.30 5/34 violation rate for e coli

Dan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1,655.60

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L73R-01-BAC** **Aarons Creek**

Location: Aarons Creek from the VA/NC state line to its mouth on the Dan River

City / County: Halifax Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4AAAR004.72 Ambient station with no new data - current violation rate 0/12 for fecal coliform

Aarons Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			14.08

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-01-BAC** **Hyc0 River**

Location: The Hyc0 River from the VA/NC state line to its mouth on the Dan River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AHYC016.70 4/20 violation rate for e coli

Hyc0 River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			23.16

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-02-BAC** Little Coleman Creek

Location: Little Coleman Creek from its headwaters to its mouth on Coleman Creek

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALOL000.62 2/12 violation rate for e coli

Little Coleman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-03-BAC** Coleman Creek

Location: Coleman Creek from its headwaters to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACLB005.17 3/12 violation rate for e coli
4ACLB007.78 4/12 violation rate for e coli

Coleman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.42

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-03-BEN** **Coleman Creek**

Location: Coleman Creek from its headwaters to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4ACLB001.90 Impaired Benthic Assessment - Slow moving water with limited instream habitat.

Coleman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.42

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-04-BAC** **Big Bluewing Creek**

Location: Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABLU002.02 2/9 violation rate for e coli

Big Bluewing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.66

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-04-DO** **Big Bluewing Creek**

Location: Big Bluewing Creek from the VA/NC state line to its mouth on the Hyco River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID: 4ABLU002.02 3/9 violation rate for dissolved oxygen

Big Bluewing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			9.66

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L74R-05-BEN** **Bowes Branch**

Location: Bowes Branch from the VA/NC state line to its confluence with the Hyco River

City / County: Halifax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4ABOS000.13 Impaired Benthic Assessment - Beaver dams present in fall 2004, habitat assessment indicates sediment impacts.

Bowes Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.22

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L75L-01-DO**

Kerr Reservoir, Bluestone Creek, Buffalo Creek

Location: Kerr Reservoir from the John H. Kerr dam to its backwaters, excluding the Dan River portion, Bluestone Creek and Buffalo Creek.

City / County: Halifax Co.

Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station IDs:

4AROA018.36 Dissolved Oxygen - 13/84 Violation Rate

4AROA022.52 Dissolved Oxygen - 17/115 Violation Rate

4AROA028.04 Dissolved Oxygen - 14/65 Violation Rate

4AROA032.42 Dissolved Oxygen - 18/68 Violation Rate

Insufficient Data to make Nutrient Assessment at each Lacustrine Station

Chlorophyll a - 0/1 Samples (90% Calculated over 1 Sample Yr)

Transitional Zone Stations:

4AROA038.49 Dissolved Oxygen - 23/84 Violation Rate

4AROA043.14 Dissolved Oxygen - 4/45 Violation Rate

4ABHB004.40 Dissolved Oxygen - 7/50 Violation Rate

4AGRA003.22 Dissolved Oxygen - 9/39 Violation Rate

4ABST001.13 Dissolved Oxygen - 10/38 Violation Rate

4ABHB004.40 Dissolved Oxygen - 7/50 Violation Rate

Pooled Data:

Dissolved Oxygen - 115/588

pH - 2/759

Kerr Reservoir, Bluestone Creek, Buffalo Creek

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Aquatic Life

Oxygen, Dissolved - Total Impaired Size by Water Type:

31,644.41

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L75R-01-BAC** Butcher Creek

Location: Butcher Creek from its headwaters to Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4ABHB008.63 2/12 violation rate for fecal coliform

Butcher Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			12.44

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L75R-02-BAC** Beaver Pond Creek

Location: Beaver Pond Creek from its headwaters to Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4ABPC003.14 3/11 violation rate for fecal coliform

Beaver Pond Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			5.04

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L75R-03-BAC** **Beech Creek**

Location: Beech Creek from its headwaters to the VA/NC state line.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABEE000.80 2/9 violation rate for e coli

Beech Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.29

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L76R-01-BAC** **Little Buffalo Creek**

Location: Little Buffalo Creek from its headwaters to Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

Station ID: 4LFF001.85 7/13 violation rate for fecal coliform & 0/2 violation rate for e coli

Little Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.55
Little Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			2.55

Sources:

- Package Plant or Other
- Permitted Small Flows
- Discharges

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L77R-01-BAC** **Little Bluestone Creek**

Location: Little Bluestone Creek from the fork upstream of Route 696 to Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALNE006.56 3/21 violation rate for e coli

Little Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.46

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L77R-02-BAC** **Bluestone Creek**

Location: Bluestone Creek from its headwaters to its confluence with Moody Creek

City / County: Charlotte Co. Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ABST017.09 2/12 violation rate for e coli

Bluestone Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.13

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-01-DO** **Roanoke River**

Location: Roanoke River from the John H. Kerr Dam to the Smith Creek confluence.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 4B

Station ID: 4AROA018.04 4/35 violation rate for DO
4AROA012.08 7/66 violation rate for DO
4AROA008.66 7/25 violation rate for DO

The DO standard violations in this segment are seasonal, occurring only during the summer months, and are attributed to the releases of hypolimnetic water through John H. Kerr Dam when the reservoir is stratified. The US Army Corps of Engineers, who own and operate the dam, have contracted rehabilitation work at the dam. The rehabilitation includes measures to increase the Dissolved Oxygen levels in the water that passes through the dam.

The alternative controls that are anticipated at the dam constitute the Category 4B designation.

Roanoke River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		1,380.64	5.72

Sources:

Dam or Impoundment

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-02-BAC** **Allen Creek, Unnamed Tributary**

Location: Allen Creek, Unnamed Tributary from its headwaters to its mouth on Allen Creek.

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Station ID: 4AXUQ000.00 2/4 violation rate for fecal coliform

Allen Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			0.91

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-03-BAC** **Allen Creek**

Location: Allen Creek from its confluence with Layton Creek to its confluence with Cox Creek

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AALN009.12 5/20 violation rate for e coli

Allen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.96

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-04-BEN** **Cox Creek**

Location: Cox Creek from its headwaters to its mouth on Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 4ACOX007.73 Impaired Benthic Assessment - Slow moving stream with beaver activity

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-04-DO** **Cox Creek**

Location: Cox Creek from its headwaters to its mouth on Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID: 4ACOX000.38 3/11 violation rate for dissolved oxygen

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			10.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-04-PH** **Cox Creek**

Location: Cox Creek from its headwaters to its mouth on Allen Creek

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

Station ID: 4ACOX000.38 2/11 violation rate for pH

Cox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			10.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L78R-05-BAC** **Cotton Creek**

Location: Cotton Creek from its headwaters to its mouth on the Roanoke River

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ACTT000.70 2/9 violation rate for e coli

Cotton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.32

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L79R-01-BAC** **Flat Creek**

Location: Flat Creek from the Belfield Road crossing upstream to its headwaters

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A Fecal Coliform / 4A

Station ID: 4AFLT009.17 4/10 violation rate for fecal coliform and e coli
4AFLT008.80 3/6 violation rate for fecal coliform and e coli
4AFLT008.79 3/23 violation rate for fecal coliform & 2/11 violation rate for e coli

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.86
Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			1.67

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L79R-01-BEN** **Flat Creek**

Location: Flat Creek from its headwaters to its mouth on the Roanoke River

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Station ID: 4AFLT009.17 & 4AFLT008.79 Impaired Benthic Assessments

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.42

Sources:

Clean Sediments

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L79R-01-DO** **Flat Creek**

Location: Flat Creek from the South Hill WWTP discharge upstream to its headwaters

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID: 4AFLT009.17 3/11 violation rate for dissolved oxygen

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			1.67

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L79R-02-BAC** **Smith Creek**

Location: Smith Creek from the VA/NC state line to its mouth on Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ASMI003.58 2/9 violation rate for e coli

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.14

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L79R-02-DO** **Smith Creek**

Location: Smith Creek from the VA/NC state line to its mouth on Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

Station ID: 4ASMI003.58 2/9 violation rate for dissolved oxygen

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			2.14

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L79R-02-PH** **Smith Creek**

Location: Smith Creek from the VA/NC state line to its mouth on Kerr Reservoir

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

Station ID: 4ASMI003.58 2/9 violation rate for pH

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.14

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L80L-01-DO** **Lake Gaston**

Location: Lower Portion of Lake Gaston on the Roanoke River- Smith Creek confluence downstream to the VA/NC State Line, including coves that enter the mainstem within VA.

City / County: Mecklenburg Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station IDs: 4AROA000.00 Dissolved Oxygen - 8/62 Violation Rate
Insufficient Data for Nutrient Assessment
Chlorophyll a - 0/1 Samples (90% Calculated over 1 Sample Yr)
4AROA004.54 Dissolved Oxygen - 13/56 Violation Rate

Pooled Data:
Dissolved Oxygen - 35/209 Violation Rate
pH - 0/225 Violation Rate

Lake Gaston	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		3,085.19	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L80L-01-PCB** **Roanoke River, Lake Gaston**

Location: Roanoke River from the John H. Kerr Dam to the VA/NC state line including a portion of Lake Gaston.

City / County: Mecklenburg Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

Station ID: 4AROA018.04 1999 FT/Sed PCB 1 Species
4AROA004.54 2002 FT/Sed PCB 1 Species & 2006 FT/Sed PCB 1 Species

Roanoke River, Lake Gaston	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		4,465.83	5.72

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L80R-01-BAC** **Great Creek**

Location: Great Creek from its headwaters to its mouth on the Roanoke River

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AGRT003.82 8/19 violation rate for e coli
4AGRT004.70 9/12 violation rate for e coli
4AGRT008.49 2/11 violation rate for e coli

Great Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.87

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L80R-02-BAC** Hagood Creek

Location: Hagood Creek from its headwaters to its mouth on Great Creek

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4AHAG002.95 3/12 violation rate for e coli

Hagood Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.68

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L80R-03-BAC** **Long Branch**

Location: Long Branch from its headwaters to its mouth on Great Creek

City / County: Mecklenburg Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

Station ID: 4ALYA000.60 5/12 violation rate for e coli

Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.03

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **L81R-01-PH** **Poplar Creek**

Location: Poplar Creek from its confluence with Main Creek to its mouth on Lake Gaston.

City / County: Brunswick Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

Station ID: 4APOB006.35 2/19 violation rate for pH

Poplar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.30

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **M02R-01-BAC** **Lovills Creek**

Location: Lovills Creek mainstem from the VA /NC State Line upstream to just above the Rt. 686 crossing.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

The ambient water quality monitoring station 4BLOV007.92 had a 37% exceedence of the E.coli water quality standard.

Lovills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.78

Sources:

Livestock (Grazing or
Feeding Operations)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Roanoke and Yadkin River Basins

Cause Group Code **M02R-01-TEMP** **Lovills Creek**

Location: Lovills Creek mainstem from the VA /NC State Line upstream to just above the Rt. 686 crossing.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The ambient water quality monitoring station 4BLOV007.92 had a 27% exceedence of the 21°C stockable trout water criterion. Exceeding temperature values up to 25°C occurred from August 2005 to August 2006.

Lovills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			1.78

Sources:

Source Unknown